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THE WEST VIRGINIA

MEDICAL JOURNAL

Published by
The West Virginia State Medical Association

Vol. VIII. July, 1913 No. 1.

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The West Virginia Medical Journal

Published Monthly
by
The W. Va. State Medical Association

Under the Direction
of the
Committee on Publication.

COMMITTEE ON PUBLICATION:
S. L. JEPSON, Chairman.
L. D. WILSON. G. D. LIND. C. A. WINGERTER.
Entered as second-class matter August 10, 1906, at the Post Office at Wheeling, W. Va.

Vol. 8—No. 1. WHEELING, W. VA., JULY, 1913 Subscription Price $1.00 per Year Single Copies 15 Cents.

Original Articles

SYPHILIS IN THE LIGHT OF MODERN KNOWLEDGE.

Victor Cox Pedersen, A.M., M.D.,
New York, N. Y.

(Read by invitation before the West Virginia State Medical Association at Charleston, W. Va. May 21-23, 1913.)

Syphilis is at once a most interesting, uncertain and discouraging disease. Some one has called it the "medical joker"—inasmuch as it is always appearing in the game of life and at the most unexpected and not infrequently embarrassing moments.

Syphilis is interesting because it is now known to be of bacterial origin so that its essential cause may be isolated, recognized, cultured, and inoculated in exact accordance with Koch's law of the bacteriology of disease.

Syphilis is uncertain because it may imitate with wonderful facility and exactness practically all diseases of the skin, and may alter, influence, masque, and even reduplicate many of the conditions in which it is intercurrent.

Syphilis is discouraging because our means of prognosis have not yet been paced *pari passu* with those of diagnosis—in other words it may be comparatively simple to recognize the existence and stage of the disease present by advanced details of diagnosis, but it is quite another matter to foresee what the end of the disease, and indeed that of the patient, will be in any given case.

The Wassermann and Noguchi tests in syphilis are entirely too new for absolute reliance in prognosis, although the assumption may be correct which is usually made—namely, that a negative test regularly maintained through many years will mean cure. What we lack in this assumption is the very element of years which, of course, time will supply, and by this the writer means the next twenty or twenty-five years of use, record, and study of this matter.

The following case illustrates the inability to foresee the results of syphilis in the present state of our knowledge even as recent as that only fifteen years old:

A dentist was referred to the author in the early stages of syphilitic paresis. He had acquired the disease about fifteen years previously, and in the light of the practice of the time had received several courses of inunctions during the first six months. These served to dissipate all symptoms which remained absolutely absent until those of the cerebrum appeared. In this long interval he had remained in perfect health inherited from his boyhood as a farmer's son. When the writer first saw him he was ruddy, robust, and healthy, and the last man in the world whom one would suspect of having a serious condition. Aside from the paresis a ++++ Wassermann reaction was his only symptom of syphilis. The writer recommended that his practice be sold while it was still marketable, and that he be taken to the country near New York where he might pass the remainder of his life under his care. The writer stated that the man might live as long as three years, but hardly longer, and that, on the other hand, possibly very much less than this term. Intense cerebral symptoms supervened, so that he died in less than

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three months after this opinion was given, notwithstanding the best treatment the writer could give.

In a paper of this kind for practical value there are three elements for consideration—namely, the diagnosis, the treatment, and the prognosis. Let us briefly review what has been recently accomplished in each of these departments.

The diagnosis of syphilis must respect not only the fact but also the degree of the disease as far as possible.

The fact that syphilis is the infecting lesion is today reasonably easy to establish during any of the periods of activity of the process with manifest symptoms. The periods of difficulty are those of the apparent but deceptive quiescence, when the disease is seemingly absent but actually only in abeyance. When the chancre heals a period of misleading rest ensues until the lymphadenopathy develops. Yet even in this case clinical diagnosis may be suggested by careful examination of the lymph vessels leading from the point of infection to the nearest lymphglands. With hardly any variation they will be found to be hard, thick, prominent, discrete, and insensitive where they turn outward into the groin from the root of the penis or clitoris and vulva. Once familiar with this "feel" the finger never mistakes it. At about the same time the lymph glands receiving these vessels become enlarged and reach a decided degree at about the same time that the chancre greatly improves or even heals —namely, during the first three or four weeks, as a rule. Then follows another period of quiescence during which the lymphglands everywhere receive the poison, so that during the succeeding three weeks, approximately, they reach their acme. Thus are fulfilled two seeming lapses in the progress of the disease during which the patient usually notes nothing but the tendency of his chancre to heal, or he may present himself with a healed lesion and the question: "What have I had?" Here the modern diagnostic points apply, namely, examination of the blood, incision or curetting of the healed chancre, aspiration and in extreme instances enucleation of an enlarged lymph node. Happily the character of the healed lesion, the features of the lymph vessels and nodes, and the Wassermann or Noguchi reactions settle the matter.

One may appropriately revert to the stage of the unhealed chancre and remind himself of the classic variations in form of this most deceptive lesion as set forth by Taylor[1] many years ago as follows:

"There are six conditions under which chancres appear at their very beginning: these are—first, the chancrous erosion; second, the silvery spot; third, the dry papule or patch; fourth, the umbilicated papule or nodule or follicular chancre; fifth, the purple necrotic nodule; and, sixth, the echthymatous chancre.

"Besides the six type-forms, there are the following varieties which are due to certain changes to which the primary sore is liable: the ulcus elevatum, multiple herpetiform chancre, the parchment chancre, the annular chancre, the indurated nodule or mass, the chancre with cream-green membrane, and infecting balanoposthitis."

Such a catalogue of varities of onset in any disease would merit close study of the lesions and respect for a disease so devious. Hence it seems fair to say that conscientious regard for the rights of the patient and the interests of the community, in short, professional ethics, requires that any one diagnosticating syphilis should himself possess or have at the service those who do possess a full bacteriologic equipment for the recognition of the *treponema pallidum*. This implies expertness in the use of the dark-field illuminator, India ink imbedment, the various stains and even the culture of the organism.

The importance of this detail is exemplified by the following case:

Three weeks before marriage a young Jew was brought to the author for diagnosis of a lesion at the root of his penis on the left side, which had a yellow, pus-covered base closely resembling chancroid and which had defied all surgical methods for fully four weeks. The dower had been paid by the bride's family after the curious usage of some of the Jews, so that socially and financially he could not or rather would not withdraw from the marriage, but demanded that the lesion be healed within the three weeks. This the writer emphatically proclaimed could not be done, and that either he must postpone his marriage for a year or else proceed against advice and at his own responsibility. He chose the latter course. At first

1. Genito-urinary and Venereal Diseases—Taylor—Third Edition, page 500.

sight the lesion looked like a chancroid with edema rather than induration. It had, however, no overhanging edges and its base was covered with a cream-green slough, darkest at the center and immediately surrounded by a smooth, varnished, red margin. These features made it a chancre from the writer's experience, which was corroborated by the lymph vessels, four or five in number, like so many fish lines under the skin leading directly to the glands in the left groin. His family physician had been deceived by the character of the lesion and of the glands which, through the mixed infection in the chancre, suggested chancroidal bubo, but the signs of pus were absent—namely, pain, tenderness, matting of the glands together and to the skin, and local heat, redness and edema of the skin. He had also been thrown off his guard by undue trust in a single negative Wassermann test taken early and a negative search for the spirochetes. These organisms were found by the writer in the depths of the chancre after a persevering search with the dark field illuminator. A Wassermann test at this same time was positive. The lesion healed under mercurials locally and divided doses of 606. The patient knows that he has syphilis and seems to be guiding himself accordingly in that he says he has not yet had sexual congress with his bride. How long he may be obedient to advice no one may tell, but the responsibility is entirely his now, and not that of the medical profession in not having made a correct diagnosis.

A very important simple diagnostic point is, that chancres do not have overhanging edges which should always be determined with the aid of a probe or wooden toothpick. In a chancroid the most active zone of disease is the edge just within the skin so that undermining always occurs in a degree easily demonstrated with such an instrument. In a chancre, however, the zone of necrosis is central, while the line of demarcation at the edges represents the more recent round-cell infiltration so that the edges, instead of being undermined, are clean cut and elevated. This may be well demonstrated by viewing the chancre from the side in the plane of its own horizon.

Diagnosis of the second stage of syphilis varies a little in its features from that of the primary stage. It is comparatively easy when the rash is present, although the outbreak may vary from a faint blush of the skin like a very mild scarlatina, to pustules universally distributed and indistinguishable from smallpox without the aid of the Wassermann blood test and the discovery of the chancre, open or healed. Such a pustular syphilide is accompanied by chill, fever, headache, backache, ocular symptoms, nausea, vomiting and depression, exactly like smallpox but not quite so severe.

A case in point is the following interesting one:

The writer, when an interne at the New York Hospital, examined a woman, fortunately with rubber gloves, referred for cancer of the cervix uteri, which appeared to him atypical, and in the practice of that day to merit a section for the pathologist. While awaiting the formal report she broke out in an intense pustular universal rash with all the foregoing subjective and objective symptoms. She was isolated under the care of the Board of Health expert as a case of smallpox. After thirty-six hours of observation and doubt on this point the question was settled by the diagnosis of chancre presented by the Pathological Division. This woman had a well marked *corona veneris*, so that the attending surgeon, Dr. Francis W. Murray, made the correct diagnosis at the first examination. The writer has never forgotten the impression this symptom made on him and the horrible possibilities from which the rubber glove protected him.

Lymphadenopathy precedes and is always present with the rash in some degree, so that it is of great service in distinguishing syphilis from other skin lesions which it may imitate with vexatious and perplexing exactneess.

In the second stage, moreover, beginning just before or with the rash, the Wassermann and Noguchi blood tests are always present in positive degree, sometimes in the higher degrees. Later in this stage the luetin test of Noguchi may be of service, less so than in the third stage. The value of luetin, however, is still under study. It will, however, probably stand the test of long use and gain in confidence.

The systemic condition of the patient is a suggestive help in corroborating the other findings. With the outbreak of the rash the patient may show, in fact usually does show, considerable anemia, loss of weight and nephritis. These three conditions should always be under observation every one, two or four weeks in all periods of the disease, the longer intervals corresponding with the later stages, and good progress.

Perhaps the most important symptoms of the second stage are the mouth lesions which undergo a number of atypical mani-

festations as pointed out in a contribution by the writer read before the American Dental Association, July, 1907.*

Every one treating syphilis should study the mouth lesions of the disease with great care. A little rule the writer has found most serviceable is, first to look for bad teeth and then for the syphilitic lesions in the gums, tongue and cheek around them. The irritation of the mixed infection in bad teeth always determines syphilitic lesions at the same point, although, of course, they occur also away from the teeth, on the hard and soft palates, tonsils and the like. The cleaner the mouth, however, the fewer the lesions: a very important detail in the treatment.

The "touchstone" of the older methods of diagnosis of syphilis is not to be laid aside lightly by any means, and the writer is glad to employ the rapid administration of mercury and the iodide of potash not only in obedience to but in corroboration of all modern means of diagnosis. Often the more difficult the case the greater the satisfaction in its application. Here again this single method can not of itself be trusted to settle the diagnosis. It must be corroborated and corroborating.

Diagnosis in the tertiary stage of syphilis repeats largely the conditions we find in the later secondary period, namely, absence of frank but presence of misleading symptoms. Therefore, the blood tests of Wassermann and Noguchi, the luetin reaction of Noguchi, the use of antisyphilitic measures and a careful physical analysis of the case are essential. The characters of the spinal fluid are of service, and now that the *treponema pallidum* has been found in the brain substance of the dead it is possible that some means of recovering it from the spinal fluid will be developed sooner or later.

*(Foot Note: *Dental Cosmos*, 1907. The author never saw the proof of this paper and therefore did not correct two editorial errors, namely, the wrong use of "typical" for "atypical" in the last paragraphs and the implied statement in the discussion that chancre is autoinoculable. This is the only scientific contribution whose proof the author was not allowed to correct.)

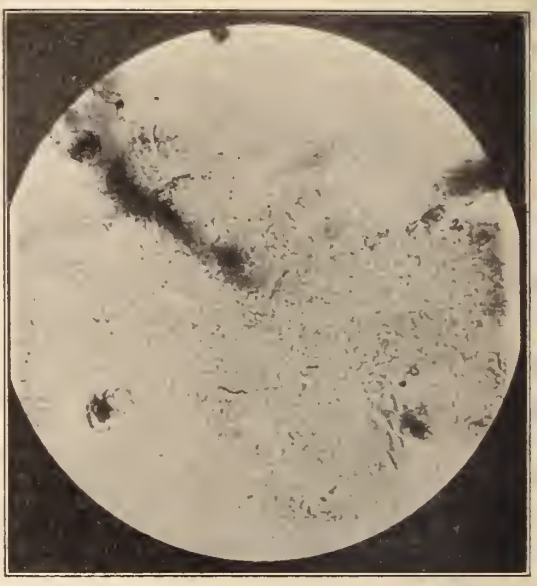

Figure II is a microphotograph of the *spirocheta pallidum* recovered from the cortex in the frontal region of the paretic brain by Dr. Hideyo Noguchi of the Rockefeller Institute for Medical Research, who has kindly permitted me to publish the same as part of this paper.

Mott, last year, in the Proceedings of the Royal Society of Medicine, and Nonne and Plant, who have written a monograph on the subject, bring out the following chief details of the spinal fluid in syphilis of the brain and cord. General paralysis of the insane has a lymphocytosis of 20 to 30 to the cubic centimeter, marked excess of globulin and probably a positive Wassermann test in both spinal fluid and blood. In syphilitic vascular cerebral disease there is naturally no change in the spinal fluid inasmuch as the condition is an endarteritis. In *tabes dorsalis* the cerebrospinal fluid is much like that of paralysis of the insane with a higher lymphocytosis, especially if the type be exudative, but the Wassermann test is usually negative. In syphilitic meningitis the lymphocytosis rises even to one or two hundred to the cubic centimeter, the globulin, however, is not increased and the Wassermann is usually negative rather than positive. These general facts permit the neurologist working hand in hand with the syphilologist to determine not only that syphilis is the basis of a given cerebro-

spinal condition, but also to indicate the form of the lesion within narrow limits.

Congenital and hereditary syphilis in the sense that the *treponema pallidum* may invade the spermatozoid or the ovum and leave either or both possessed of generative vitality, is biologically impossible, just as it is physiologically impossible for the adult organism to carry, say, a fourth part of the body weight in infecting organisms. What probably occurs is that the impregnated and growing ovum acquires the syphilis from the mother during an early intrauterine period. Recent researches as to the blood reaction in pregnant women indicates that Colles' law, and similar theories concerning maternal syphilis without symptoms belong in the Rogues' Gallery of Scientific Outcasts. In 1903, three years before Hoffmann and Schaudin discovered the organism of syphilis, and several years before Wassermann brought out his reaction, Griffin, (*New York Medical Journal*, March 14th, 1903), in a paper on "The Diagnosis and Treatment of Hereditary Syphilis," points out the oft-forgotten axiom that one must never pin his faith on one symptom, such as Hutchinson's teeth, but be familiar with the vagaries of syphilis in the mucous membrane of the mouth. It is now a well known fact that deformities of the teeth, if present, suggest syphilis of parental origin, but if absent nothing is proved.

Concerning congenital syphilis one may note a peculiar anomaly in all treatment of this disease. Every authority recommends treating the mother throughout the pregnancy to benefit the child. Yet many authorities still hold that it is good therapeusis to wait for the secondary lesions to appear in the recently infected adult before instituting treatment. If this is good judgment, why would it not be equally good judgment to wait for the newborn infant to show syphilis in unmistakable degree before beginning to treat it? Banish the thought and banish the old theory! Neither hearers nor readers nor the writer would lose a half hour between the diagnosis and the beginning of the treatment in these days of knowledge if we were the victims. Have we any moral, scientific, or sociologic right to treat the wayfaring patient otherwise?

Diagnosis of the degree of syphilitic infection is a recent addition for which the medical fraternity is indebted to Dr. Hideyo Noguchi of the Rockefeller Institute for Medical Research. This authority has isolated three different types of *treponema pallidum*, each with a distinctive order of virulence, namely, the thinner form being the most virulent and associated with the necrotic lesions in experimental studies in animals, the thick form being the least virulent and recovered from lesions with overproduction of induration, and the average form being in its morphological characters a balance between the thin and the thick and showing in its pathological features a similar mean between the other two. Each of these types is recovered from corresponding lesions of the chancrous stage in the human family, and indeed in the later periods accurately in correspondence with the foregoing facts. In brief, then, the severe and grave forms of human syphilis are due to the thin type of the *treponema pallidum*, the average relapsing cases possibly to the normal type of this organism, and finally the so-called benign syphilis to the thick form. Very recently Noguchi has discovered the fine form of spirochete in the brain substance of victims of paresis and general paralysis of the insane, and will doubtless find it, sooner or later, in the spinal cord of ataxics. Noguchi (*Journal of Experimental Medicine*, Vol. 15, page 203) summarizes the three forms of syphilitic organism as follows:

"When many cultures of *treponema pallidum*, whether obtained from the testicular lesions produced in rabbits or directly from human cases of syphilis, are compared, certain definite differences in morphological character become apparent. The different specimens can be divided into thicker and thinner forms or types, and an average or normal form or type. The last is the common or most frequent variety, but the other two occur with sufficient frequency and retain their characters with such constancy as to constitute distinct varieties. Indeed, two of the varieties—the average and the thinner—occurred in association in a chancre and were separated afterwards in cultures. The gross cultural properties of the three varieties present no points of distinction.

"The lesions caused in the testicle of the rabbit differ according to the variety inoculated, and consist either of a diffuse or of a nodular orchitis. This is a highly important distinction, and if, in the study of a still larger number of speci-

mens of pallida, it is maintained, it is capable of throwing light on certain important clinical features of the human syphilitic disease.

"The thinner variety of *treponema pallidum* resembles in morphology *treponema microdentium*, from which it is unmistakably distinguished by cultural characters.

"The morphological and pathogenic variations in cultures of the pallidum may constitute racial differences within the species."

These scientific facts are two departures from the old method of diagnosticating syphilis. First, that an immediate decision as to the disease may be and should be reached, both as to the fact of the inoculation and tentatively as to the degree of virulence, and second, that delay of diagnosis until the secondaries are developed is now as much a scientific and sociologic crime in syphilis as it would be in tuberculosis to wait until cavities appear in the lungs or general miliary process is set up, for examples. The writer remembers hearing one of the older practitioners say: "Early diagnosis with immediate treatment of syphilis is all very well from the standpoint of the physician, but from the standpoint of the patient it does not carry the weight of impression and the depth of conviction of serious infection provided by demonstration of the secondary lesions." This fallacious argument may be met by two unanswerable arguments.

First, by asking one's self the question, what would I want done if I had the syphilis, early or late diagnosis, immediate or postponed treatment; and second, by demonstrating to the patient spirochetes from his own lesions either in a dark field illuminator or in a laboratory preparation. The writer has yet to find a patient who doubted the validity of such a demonstration. For one the writer would like to register his choice to be diagnosis at the earliest moment, with every corroborative step possible, and the institution of treatment along all known and accepted modern lines the same day that the diagnosis is made.

On conservative estimate, as the writer pronted out in a previous paper (*N. Y. Med. Journal*, April 29th, May 6th and May 13th, 1911), the following data concerning syphilis are true:

"(a) That it is steadily spreading throughout the world;

"(b) That it accounts for fully 25 per cent of insanity by statistical records in asylums;

"(c) That it accounts for fully 50 per cent of all organic nervous diseases besides insanity;

"(d) That thus syphilis has become a more potent factor in the death rate of the community than any one has yet attempted to compute statistically;

"(e) That today any patient who has had syphilis and is later the victim of another disease, almost invariably requires consideration of this fact in the treatment of said other disease."

To this array may be added the fact that syphilis accounts indubitably for 100% of the victims of ataxia, paresis, and paralysis of the insane.

If we review all the old methods and means of treatment for the factors which may lie at the basis of this balance sheet of the disease with the community the imperfections of diagnosis due to the absence of development in bacteriological knowledge and the delays of treatment due to these very imperfections are in the opinion of the writer pre-eminently potent. While not an accurate analogy, it is sufficiently just to say that great pox or syphilis, in its incidence upon the community in virtue of the foregoing errors and limitations, is much where smallpox would be if we neglected vaccination and waited for epidemics. No sane person would back up the latter medical proposition, and we shall hail the day when no one conceives or enunciates the former.

The writer has had two cases which point rather prettily toward the conduct of identical infection of closely similar individuals under identical treatment by the same observer.

Dr. Frank Terry Brooks of Greenwich, Ct., referred a young man with a suspected chancre at the peno-scrotal juncture. The diagnosis was easy from the lesion, the lymph vessels, and lymph glands. The history was peculiar, the patient asserting that he had had intercourse with only one woman during the preceding three or four months, and that the family physician of this woman asserted that she did not have syphilis. I stated that I would not accept this opinion provided he was speaking the truth as to having been with no one else. He reiterated the assertion and agreed to send the girl to me, to which I replied that if sent she would probably not come, but if brought she would come. I stripped the girl and examined her part by part under a sheet, and had no dffiiculty in finding a discrete, faint, widely scattered secondary

rash, adenopathy and a tonsillar chancre. The disease seems to have been acquired by "tongue kissing" a man who had gone to a sanitarium for treatment of a disease which he had assured her "meant nothing," although he then had advanced inguinal adenitis. My patient, the young man, again assured me he had not had relations with any other individual. Both were of the tall, thin, nervous type of refined families and good social standing. I therefore determined that their symptoms must be checked at once and recommended 606. The girl refused to go into the hospital alone and obviously could not inform her family. She did, however, agree to enter a private sanitarium with a false name and as the wife of the man concerned. On the same day, within a quarter hour of each other, I gave each 0.6 grammes of 606 and followed this with energetic mercurialization. Both patients progressed equally well, so that in six weeks each had a negative Wassermann test changed from ++++ for the girl and ++ for the man. The general condition of each was much the same until the girl began to be irregular in attendance. Then arthritis of both knees appeared. Meanwhile, contrary to my request they continued to live together and she became pregnant. They then made the demand that the pregnancy be terminated, while the man desired to disappear to unknown parts. I stated that as a medical proposition in the interests of society, the baby and the course of the mother's syphilis, a majority of physicians would agree with my opinion establishing the propriety of such an operation, provided a proper consultation were held in the presence of all the parties concerned in a perfectly open manner. The young man did not see it in this way and assumed the air of injured dignity, whereupon I told him that obviously he expected such a thing to be done to suit his convenience while he in cowardice was hiding. I added that no reputable human being, to say nothing of a reputable physician, would consider it even briefly. Quite naturally both cases have disappeared from my hands.

Up to this limit, however, they do represent an exactly parallel result as long as faithful treatment was continued in two similar individuals with identical infection.

The second part of this contribution is the matter of treatment. What has modern progress added there beside the wisdom of immediate institution of treatment at the time of early diagnosis? It is hard to lose sight of the good work done in the past even with its recognized disadvantages by the systematic, energetic, well-balanced administration of mercury, the iodide of potassium, various tonics and good management. Many cures must indeed have been reached by all the various means of administering the chief medicine, mercury, although the least efficient is probably the ingestion method and the most efficient the intramuscular injections as recently developed and fully pointed out by the writer in three previous papers. (*Med. Record*, 1905; *N. Y. State Med. Jl.*, 1909; *N. Y. Med. Jl.*, November, 1909.)

Added to this, the more or less regular administration of arsenic as one of the tonics is by no means new. This fact coupled with various laboratory features possibly leads to the development of the more recent arsenical compounds such as salvarsan, neosalvarsan, and cacodylate of soda and others. The wave of enthusiasm for salvarsan as a new sheet anchor to the windward during the syphilitic storm has largely reached its limit. Recent researches in Vienna seem to indicate that it may harm the delicate nerve supply of the eye and the ear, and in Sweden it is stated that a royal edict has formally forbidden its use.

Such a stand may be warranted against indiscriminate and excessive doses without due knowledge of the patient's general condition, renal function, optic and auditory efficiency, anemia and the like. Therefore, this attitude may represent the other extreme—absolute negation as against absolute acceptance. The mean seems to be the ground of safety and scientific good faith, and in the opinion of the writer, in agreement with that of many other conservative authorities, involves the administration of small repeated doses combined with preliminary and interval analysis of the patient. In other words, the use of these preparations requires most careful management of the patient. Indeed, one must treat the patient as well as the disease, or even more than the disease, while using salvarsan and the other arsenical compounds.

The writer, therefore, prefers to give three doses of 0.2 gramme or six doses of 0.1 gramme at about weekly intervals until the required amount is given. Just before each dose the patient's renal and other functions are investigated as completely as possible. If the larger subdivisions are employed two doses may be given a week apart, and then two more two or three weeks apart, so that from six to eight weeks are in either case required to reach the total. This plan seems to be the safest and to pos-

sess equal therapeutic influence as the plan of one large dose of 0.6 gramme, which always requires from twenty-four to forty-eight hours rest in bed, while the plan of very small fractional doses may be carried out in one's office with an hour's rest afterwards. Previous catharsis and subsequent abstinence from food and drink for the balance of the day are advisable and usually prevent gastric reaction.

The fractional method of administering salvarsan and neosalvarsan may in a restricted sense be compared with the medicinal tonic use of arsenous acid. Probably no poison has been more commonly employed for homicidal purposes than arsenous acid, but on the other hand few drugs in the pharmacopeia are of greater alterative and tonic value than arsenous acid in small, frequently repeated doses. In straightforward analogy, therefore, one would expect these new forms of arsenic to be safer in the cardionephritic manifestations of syphilis when exhibited in small doses at reasonably short intervals without intercurrent renal disturbance, than when administered in large or even limited doses at longer intervals. This general plan appeals to the writer not only in the face of these well known therapeutic facts but also on the basis of general conservatism.

One precaution in the preparation of these drugs for intravenous administration is, that all fluids should be carefully filtered through paper rather than gauze or cotton, in order to avoid the shreds common from the latter. The writer employs not only filtered, sterilized distilled water with which to prepare the medicine, but also filters the solution as an additional precaution. It is surprising to see how much foreign matter will be collected in this way.

The writer never has deviated from the original and simplest, namely, the gravity-feed apparatus as compared with the pressure-feed, and notes a steady reversion to it among his colleagues. His feeling has always been that we use gravity-feed for saline infusions and should also employ the same gentle process with salvarsan.

One factor in the treatment of syphilis should always be remembered, at least regulated, and when possible eliminated, namely, the use of alcohol. The incidental use of this drug when so rare as not to be an element in the patient's life at all, is not involved in the foregoing statement. The regular drinking of alcohol, however, whether in small or large quantities, and even if the patient does not become intoxicated, is, in the face of syphilis, a most momentous matter. One can always promise the syphilitic who steadily imbibes intoxicants that he will never shake off the infection, and may, in fact, expect to have it influence his health and even terminate his days more or less directly. Some one has said very tersely that the greatest enemy of cure in syphilis is alcoholism. It will, therefore, be well for all to remember this, and be on their guard to see that the steady drinker becomes so far as possible an abstainer; if an absolute abstainer, so much the better.

Under the subject of the management of syphilis the dictum has been uttered that one should treat the patient as well as the disease. The question is in order: "What is meant by treating the patient?" Simply this: All medication and other forms of treatment should be so balanced as to respect the patient's strength and in no wise depreciate that strength by more or less continuous overdose. It also means that the general condition of the patient should be carefully observed so as not to lose sight of all the general signs of variations in it, consequently the writer believes regular observations should be made and records entered in the history of changes in the weight, blood, urine, sight, hearing and general well-being.

We now come to a question of some delicacy: "In whose hands do the treatment and management of syphilitics belong?" Axiomatically in the hands of the specialist when such exists in a given community. Assuredly the vast majority of syphilitics are in the hands of general practitioners, the largest number of whom do not appreciate, recognize or follow exactly the principle just stated, namely, of treating the patient as well as the disease. Thus it is that a large number of syphilitics are, comparatively speaking, the losers.

While individual specialists always have under care a larger number of syphilitics than the average individual family practi-

tioner would, the number of specialists is so small when compared with the number of general practitioners, that essentially it follows that the number of syphilitics under the care of the former is in total much smaller than the number under the management of the latter.

Lest some one feel that this thought in the mind of the writer as a worker in this field seems narrow and selfish, he would give the assurance that he holds similar views concerning all other special work. The community, for example, gains through the services of the gynecologist, rhinologist, gastroenterologist and the like, each in his own particular sphere.

This is an axiomatic and should be an undisputed standpoint. In every line of medical development, advance in knowledge, uncovering of error and refinement of management invariably proceed from the specialized workers. Thus it is that syphilographers of today have unlearned the mistakes of the past in diagnosis and prognosis of this disease, and are undoubtedly ready to admit that the present condition of the community with regard to the old cases of syphilis asylumed in institutions or their graves would have been saved in one degree or another if said mistakes, or rather such absence of knowledge, had not existed.

A case in point is illustrated by a recent observation of the writer. A family practitioner decided to discontinue treatment because the patient felt so well that it did not seem necessary to continue. This question of "feeling well" of a dangerous and progressing disease is a very dufficult one for the laity to comprehend, and the rank and file of the profession to answer in the one way in which it should be answered: "Syphilis in its early stages causes little or no "feelings;" treatment must, therefore, be continued independent of all "feelings," and syphilis, when it does cause 'feelings' has usually progressed beyond all human aid."

An ideal which circumstance of civil conditions must forever forbid would be, to have a generation of the human race in which this disease is treated only by specialists along the lines of modern diagnosis and management, and then compare the record of the disease in said generation with what has gone before during a time when every one accepted the responsibilities of such treatment *ad libitum*.

A case illustrating what inexperience may mean to a patient is the following, which ocurred in the practice of my colleague, Dr. Walter B. Brouner, who has kindly granted permission to publish it:

> The wife of a physician submitted to tonsil lectomy and developed an unrecognized chancre in the wound of one side. Seemingly very few secondary symptoms appeared, or at least these were also not detected by either the husband or the general practitioner in charge of the case. A year later, however, gumma of the soft and hard palates appeared, which also was not diagnosticated even by the throat specialist who removed the tonsils and who may have infected her with syphilis. The lesion was characteristic, the Wassermann test ++++ and the results of antisyphilitic treatment final in their conclusions. In this case therefore a whole year was lost in the treatment, which may well show itself later by lesions of the important viscera or nervous system. Such an incident is not without pathos.

The prognosis of syphilis is our last subject and naturally embraces the immediate and the remote prognoses. The average patient usually asks after the diagnosis has been established first, how long his chancre will take to heal, and second, what will be the ultimate result of the disease in his case. Modern knowledge helps us in these queries to say, that a chancre without mixed infection and without a tendency toward necrosis will require in healing a week or two longer than it required in developing. As the latter is almost always three weeks, the former must be four or five weeks. If the element of necrosis or mixed infection is present, then the healing of the lesion is slower and apt to be complicated with mild or severe suppurative adenitis. The recent researches of Noguchi previously described are of value here inasmuch as the fine spirochetes are associated with necrotic lesions and the coarse with indolent chancres. Thus if this distinction is made at the outset one can increase his care as to the local condition and as to the systemic disease, and may inform the patient that he has a form more vicious, judged from the bacteriologic findings.

This, therefore, introduces the matter of ultimate prognosis of syphilis. The writer has always believed that neither the indi-

vidual practitioner nor the profession at large should, as it were, do all the work, receive under-pay, and bear all the responsibility. He is therefore accustomed to tell the victim of syphilis that there is one element of responsibility and one chance of unfavorable prognosis which he himself took when he incurred the risk of acquiring the disease. From these no human being or knowledge or skill can relieve him. Though a low percentage of hazard, these chances are real, if they turn in later life against the patient. The better the treatment the smaller these chances. It is, therefore, quite fair to say that, given a patient with good habits and a good inheritance of health, the chance of cure in syphilis is good. The writer is in the habit of saying that after three years of faithful treatment and good management very few relapses indeed are known, that after two years relapses begin to become common, and that after less than two years they are the almost invariable rule. The shorter the period within two years the greater and the earlier the relapses, other things being equal.

Such well-known facts as these should always be taught patients, but, alas, they are not, chiefly because the general practitioners do not see these cases in sufficient numbers and for periods long enough for each to be himself convinced out of his own experience.

Another element of prognosis in syphilis might be called the communal as distinguished from the personal, and relates to the outlook of infection of other members of a community by a given victim. One cannot do his duty by patients or society unless he tells every patient that the price some one or more members of his circle of relatives and friends will sooner or later pay for his neglect of treatment is innocent infection. It would be interesting and appalling indeed to compute and record the number of these innocent victims throughout the world.

A case in point is that of a cabman, a "night hawk" technically called, namely, one accustomed to drive men about to houses of prostitution, in one of which he himself finally became infected with the syphilis. The writer treated him for a while as regularly as his ignorance would permit, until he finally announced his intention of marrying about fifteen months after the infection. He would not be dissuaded from this course, but seemed convinced that he must continue energetic treatment for the balance of the three years prescribed; but he soon lapsed in this good resolution, acquired a fresh outbreak of mucous patches, bestowed a chancre of the lip upon his pregnant bride who, in the midst of secondary skin lesions, was brought under the writer's care. Notwithstanding the most careful and faithful treatment and warnings that she would probably miscarry in any event, when this incident did occur a general practitioner informed them that it was due to the treatment and not to the syphilis. This is an example of what knowledge some practitioners have concerning syphilis. The evil day was postponed until about the sixth month, and while deploring the possibilities of a syphilitic baby, the writer congratulated himself that the treatment was adequate in order to secure such a result. Naturally, the writer received nothing but blame, as they were Roman Catholics, and both cases left my care. The experience stands out in memory, however, as an example of what some physicians, even in the empire city of New York, cannot or will not recognize even in the presence of a dead, macerated foetus—a condition admitted by the father to me, as having been present.

In closing, the writer feels entitled to say that every one seeing syphilis at all commonly should prepare a printed pamphlet or leaflet of instruction setting forth the general features of this disease. Such measures will mean that all patients, public and private alike, receive instructions in these matters along the same lines, in unvaried terms which may be suitably explained as occasion arises, from patient to patient. The writer brought out such a pamphlet: "Instructions to those having syphilis." (*Medical Record*, September 7th, 1907), and on it based a leaflet long used by him in dispensary practice. If through this pamphlet and this leaflet, and if in this present contribution, any little aid is given or valuable suggestions offered in meeting this disease in its relations of diagnosis, treatment, prognosis and sociology, the writer will be happy, indeed.

45 West Ninth Street.

To cure practically any case of bed sores: Wash frequently, with a solution consisting of two drams of ammonium chloride, 4 ounces of water and 12 ounces of alcohol. Dry gently and powder with stearate of zinc. Of course the patient's position should be changed frequently and rubber air cushions should be used whenever required.

CAESARIAN SECTION.

Hugh Holmes Carr, M.D.,
Fairmont, W. Va.

(Read at annual meeting of State Medical Ass'n, May 21, 1913.)

No department in the great field of medicine has shared more liberally, at least from the standpoint of lowered morbidity and mortality, in the fruits of scientific investigation, than has obstetrics. To Oliver Wendell Holmes chiefly are we indebted for a knowledge of the cause of the appalling maternal mortality in obstetric practice everywhere prevalent up to the beginning of the last half of the 19th century. Then came a fuller understanding of the cause of disease when Pasteur made his great discovery and initiated the science of bacteriology. Lord Lister was the first to make practical application of the principles adduced by Pasteur. In the accrued benefits of these great epoch-making events obstetrics has ever shared. With increasing knowledge of the cause of disease and its logical prevention, surgeons all over the world have achieved such skill and made possible such operative procedures as would have been considered miraculous a century ago. Of this advance there is no more striking example than Caesarean section, which, from being a wonder of science, has been so simplified as to deserve consideration in every case of difficult labor. Not to the families of royalty alone is this blessing vouchsafed, but by the humblest mother in our land may it be enjoyed.

To any one investigating the literature on this subject at first hand, the mass of facts and the contradictory opinions are appalling. In preparing this paper it has been my aim to bring to you from a review of the literature, in as concise form as possible, a true picture of the operation as it is viewed today; to make clear the legitimate indications for it; with a description of technique so simple that it may be applied by any one with even moderate surgical training.

Caesarean section is an operative procedure whereby the pregnant uterus is delivered of its contents by means of an abdominal section and a subsequent incision through the uterine wall.

The origin of the term is not clear. It has been quite generally believed that Julius Caesar was brought into the world by this method and obtained his name from the manner of his delivery (a caeso matris utero). However, this very probably is not true—as history tells us he was not the first of his name, there being a priest of the name who lived several generations previous to the time of Caesar. Also we know that the mother of Caesar lived for many years after his birth. A more plausible explanation of the origin of the term is, that it derived its name from the old Roman Law "Lex Caesarea," which required this operation to be performed upon women dying during the last weeks of pregnancy.

It seems probable that the history of Caesarean section dated back to the earliest times, as this method of delivery is known to have been employed among the uncivilized tribes.

The first treatise upon this subject was written in 1581 by Francois Rousset, in which he gave the histories of several cases which he had collected from various sources. His article directed attention to the fact that it was possible to perform Caesarean sections upon the living woman.

The first authentic operation was performed by Trautman in 1610. Following this it was occasionally performed up to 1777, when Sigault performed the first symphysectomy, which operation temporarily replaced the Caesarean section.

The technique of this period was evidently rather crude, as the walls of abdomen and uterus were incised, the uterine contents removed, and abdominal wound closed, no sutures being taken in the uterus, the operator relying solely on the contractile power of uterine muscles to control hemorrhage; and as this was long before the Listerean Era, we can readily see why the mortality was so very high, as many of the cases died either of hemorrhage or infection.

In 1867, 1600 cases were collected from literature, with a mortality of 54%, which seems to me, under the existing technique of that time, to be very low.

In 1876 Porro advised the amputation of the body of uterus following a section, and

stitching the cervical stump into the lower angle of abdominal wound, his object being to lessen the danger of infection and the control of hemorrhage. The results thus obtained seemed to be very satisfactory and for a while this procedure was very generally used.

To Sanger belongs the credit of making Caesarean section an operation that I believe should be taken into consideration, not as a last resort, after a possible attempt at delivery with high forceps, or after waiting until the patient is very much weakened by protracted labor, but as an operative procedure that can be done with comparative safety.

It was Sanger who in his article read and published in 1882, first called attention to the use of uterine sutures following a section. This addition to the technique of that time revolutionized the operation, and was known as the Conservative or Sanger operation in contra-distinction to the radical or Porro operation.

The Porro operation, as it is usually performed today, is a modified one, as the cervical stump is covered with a flap of peritoneum and dropped back into the pelvic cavity instead of being stitched to the lower angle of the abdominal wound, and is performed when it is deemed advisable to remove the fundus uteri for myomatous growth or other pathological conditions.

In considering the indications for Ceasarean section, I believe we consider the most common indications to be pelvic contractions which mechanically form a serious obstruction to labor. The pelvic indications may be either absolute or relative. The true conjugate in the absolute being less than 5 cm. which contraction would be so pronounced that the delivery could not be effected by any other means. In the relative indication the upper limit of the true conjugate being 7 c.m. this contraction would prevent a spontaneous delivery but would permit a delivery after craniotomy.

I believe that craniotomy should rarely be done in preference to Caesarean section unless.

1st—Patient is septic.

2nd—The child is dead or a monstrosity is diagnosed.

3rd—The surroundings and surgical assistance, etc., are very poor and not conducive to a successful abdominal section of any kind.

4th—Previous attempt at high forceps, careless vaginal examinations, etc.

In speaking of pelvic contraction, unless we are quite sure of the accurateness of our pelvic measurements, is it not wise to allow the patient to complete the first stage of labor and go into the second? I believe in some cases at least, a spontaneous delivery will occur, which occurrence was very clearly demonstrated to me about one month ago.

Dr. H. S. Yost, of Fairmont, referred a case to me about two years ago for a cervical and perineal repair, with a history of having been instrumentally delivered some years previous, the doctor telling her at the time that she had a contracted pelvis; and the child weighing six and one-half pounds was dead, and the mother not only had a complete perineal tear but was very seriously ill following the delivery.

In the absence of Dr. Yost, I was called to attend the patient last month in her second confinement, and both patient and husband wished to have a Caesarean section performed on account of the previous labor experience.

The pelvic measurements were taken, the diagonal conjugate being approximately 10 cm. After deducting 1.5 cm. to obtain the true conjugate, the latter would be 8.5 cm. I decided to wait until the patient had been in labor at least two hours, and after waiting that time the head had become engaged, the pains were strong, and she delivered the baby in seven hours without the use of instruments, the perineum sustaining a second degree tear, which was immediately repaired. Taking into consideration the previous obstetrical history and the nearness to the relative limit of the true conjugate diameter, I was tempted to operate without waiting, which, as results show, would have subjected the patient to an unnecessary risk.

Other mechanical indications for Caesarean section are uterine fibro-myomata, ovarian tumors, tumors of any of the adjacent structures, stenosis of the cervix and vagina, and previous operative procedures.

such as ventro-fixation. Other important indications are eclampsia, placenta praevia centralis, concealed hemorrhage, and general constitutional crises.

Dr. Peterson of the University of Michigan has collected 425 cases of eclampsia treated by abdominal Caesarean section with a maternal mortality of 36.9% and a fetal mortality of 5.5%. He states that beyond a doubt no one is justified in dismissing the treatment of eclampsia by abdominal Caesarean section with a short statement that the mortality was so high as to make it unjustifiable.

Roberts reports a case of Caesarean section for prolapse of cord in contracted pelvis. The patient was sent to the hospital with the cord hanging out of the vagina but pulsating. Examination showed a contracted pelvis and that the head was not engaged. After washing the cord with a solution of lysol an unsuccessful attempt was made to replace it, as the pulsations were becoming slower. Casarean section was performed, saving both child and mother.

Speaking in general in regard to the indications for Caesarean section, I believe that with present day surgical technique we should always take into serious consideration Caesarean section when it comes to a choice between it and cranitotomy, symphysiotomy, or an attempt at delivery with high forceps, with a possible chance of getting a tear extending through the uterine wall into the peritoneal cavity, unless the patient is septic or has had repeated careless vaginal examinations, or there is a dead foetus. And it does seem to me that we should regard it under ordinary circumstances as a comparatively safe operative procedure, and one that is not extremely difficult to perform.

In regard to technique, Davis of New York has written an article (Bull. Lying-In Hosp. 1912, Vol. VIII, p. 225) entitled "Modern Methods in Caesarean Section," in which he reports 134 personal cases and describes his technique as follows :

Median incision 3½ inches long from umbilicus upward. The intestines are held back with wet gauze. The sides of the abdomen are pressed against the uterus by an assistant. The uterus is opened in the median line, the hand is swept around loosening up the membranes, after which the latter are perforated and the foetus is extracted by the breech. After the removal of the placenta and membranes the wound of the uterus is closed with two layers of sutures; the first layer through the muscle but not including the mucosa; the second, a peritoneal layer covering the first. The abdomen is closed in the usual manner. He believes that by this method, which is characterized by a small incision and the non-delivery of the uterus, a great deal of shock is avoided and likewise the danger of a subsequent hernia. Of these 134 cases, 17 mothers died, giving a maternal mortality of 12.5%. The causes of death in this series were as follows:

10, septic infection (only two of these were wholly under the care of the operator, eight had outside examinations and attempts at delivery; 1, shock and slow persistent hemorrhage (*3d Caesarean*), 1, pneumonia; 4, eclampsia.

The indications for operation were as follows:

Contracted pelvis, 100 cases.

Tonic contraction of uterus and dry labor, 4 cases.

Prolapsed cord and undilated cervix, 2 cases.

After ventral fixation, 4 cases.

Placenta praevia, 3 cases.

Pneumonia (patient moribund), 1 case.

New growths, 6 cases.

The repeated Caesarean section in the same patient was done in 21 instances.

In a more recent report of 69 cases by Dr. Davis there occurerd a maternal mortality of only 5.79%.

Schaeffer, in a German journal, advocates a special method of technique, in which he states that the disadvantages of the classical Caesarean section are avoided, such as the flowing of blood and liquor amnii into the abdominal cavity, post operative hernia, pressure on intestines, cooling of the uterus, trouble in suturing the uterine wound, and great loss of blood. His procedure is as follows:

A longitudinal incision is made in the median line just above the symphysis, through the skin, fat, fascia, and peritoneum. The cervix is incised longitudinally in the median line just above the fold

which is low under the symphysis when the bladder is empty. If the median line is strictly adhered to there is little hemorrhage. A narrow speculum is placed in the upper angle of the uterine wound and pulled into the upper angle of the abdominal wound, so that both lie close together, thus avoiding the spilling of amniotic fluid and blood into the abdominal cavity. In head presentations the child is extracted with straight forceps; otherwise it is turned and delivered by the feet. One to two c.c. of secacorin (Roche) (ergot) are then injected intramuscularly. After some minutes the placenta and membranes are delivered. The cervical wall and peritoneum are closed with continuous catgut sutures. The abdominal wound is closed by continuous catgut sutures in the layer method, and the skin closed by Michel's clamps.

In the Werthiem Clinic at Vienna, I saw three Caesarean sections performed under spinal anaesthesia, the technique of which was as follows:

The patient was prepared for abdominal section in the usual manner, and was placed sitting on the edge of the table with the limbs hanging over, the spinous processes being separated by the bending forward of the body. A lumbar puncture was then made between the third and fourth lumbar vertebrae, and 2½ c.c. cerebrospinal fluid withdrawn, and the same amount of a 5% solution of tropo-cocaine injected, and the patient allowed to lie down, the shoulders being slightly elevated. After ten to twenty minutes the patient was taken to the operating room and the abdomen prepared in the usual way for a section. A long incision being made with the umbilicus as center, the uterus was then delivered from the abdominal cavity, and a transverse incision made between the cornua, the uterine contents delivered, and wound closed with two rows of sutures. Frequently during the operation the patient was spoken to and given tea or wine to drink.

A recent report from the Schauta Clinic in Vienna gives a mortality of only 3 4-10% in a series of 116 cases.

Personally I have six cases to report with no mortality.

The indications for three of the six were contracted pelves; of the measurements in these cases those in only one out of the three were accurately taken before the operation, the true conjugate in that case being 6½ cm. Two of these cases were operated upon after being in labor for several hours.

Two of the remaining three were girls under sixteen years of age who had been in labor for sixteen hours. The cervices *not fully dilating, and remaining rigid*, the heads being partially engaged. The labor pains were becoming inert and the patients much prostrated.

In both instances there was a question of choice between a delivery by forcible dilatation and high forceps, and Caesarean section.

The remaining one case was a case of a fibro-myoma of the uterus upon which case a modified Porro operation was done

The technique used for the other five was as follows:

In two out of the above six cases the patients were prepared in the usual manner for an abdominal section by thorough catharsis, catheterization, etc. In the reremaining four the necessity for an immediate operative procedure prevented the usual pre-operative treatment with the exception of an enema.

In all the cases a 1-6000 hot bi-chloride douche was given.

Abdomen was prepared as follows: Washed with soft sponge and tincture of green soap, after which alcohol and ether were used, followed by tincture of iodine.

Abdomen was incised with an incision large enough to permit the delivery of the uterus from the abdominal cavity, care being taken not to injure the bladder, as it is very frequently attached rather high up in these cases. Immediately upon the delivery of the uterus it was covered with hot towels and protected from contact with skin by use of hot abdominal packs, the skin being clamped together just behind the cervix in order to protect the other abdominal contents from exposure and pressure.

After surrounding the uterus and covering the operating field thoroughly with abdominal sponges, a longitudinal incision

about six inches in length was made in the uterus, care being used not to injure the fetus. If the placenta presents it is cut or torn through, the legs of child grasped, delivered and handed to an assistant, the cord being cut between two clamps. The placenta and membranes are then rapidly delivered and the uterus swabbed out with a dry abdominal sponge. The cut edges of the uterine wall are then approximated by two layers of sutures. The first layer extends from a quarter of an inch below the peritoneal surface through the uterine muscle to the mucosa and is brought out by the reverse procedure on the opposite side. This is an interrupted layer, tying as we proceed. The second or peritoneal layer extends through a little of the muscular tissue, approximates the cut edges of the peritoneum and buries the first or muscular layer.

During the suturing of the uterus hot packs are repeatedly applied. The towels and packs soiled by the liquor amnii and blood are removed from the field and the uterus dropped back into the abdominal cavity, first ascertaining definitely whether or not there is any hemorrhage, and if any is present it is treated by a controlling suture or sutures. The peritoneal surfaces are then approximated by a back and forth stitch, bringing the serous surfaces into juxtaposition with the cut edges facing upwards. Number one chromic gut is used for this layer. The muscles are next approximated by an interrupted layer of number one chromic, the sutures being about one inch apart.

The fascia is next sutured with a continuous number two chromic. The skin edges are approximated by either silk worm or clamps. The field is then cleansed and a dry sterile dressing applied, which in turn is covered by tightly applied adhesive strips.

In regard to the technique just described. I have tried to follow a most simple and direct method and one which I feel that I can do well, with a fair degree of rapidity.

We have tried to combat the shock of the uterine exposure by the repeated application of hot towels and packs, which also increase the contractile power of the uterine muscle, and have tried to prevent infection of the abdominal contents by surrounding the uterus and field with sponges to absorb the liquor amnii and blood, the sponges being packed in around the uterus.

I believe, if care be taken in the closure of the abdominal wound, there will not be very much more liability to subsequent hernia than in an ordinary abdominal section. It also seems to me that there would be more difficulty in suturing the uterine incision inside the abdominal cavity.

The question often arises of sterilizing the patient so as to avoid the possibility of future conception. Personally I do not believe in doing so as a routine measure. I believe, if the patient is intelligent and does not live in a district where surgical aid can be procured, that the decision should be left to her or her family.

In conclusion I would like to urge the more general resort to this operation and believe it deserves a wider use for the following reasons:

1. Almost every community nowadays has within a reasonable distance of its most outlying inhabitants some sort of a hospital where an abdominal operation may be performed with comparative safety. Caesarean section holds very little, if any, greater danger to the mother than many other laparotomies.

2. With the skillful surgeon and trained nurse easily accessible to most every community this operation may be performed in practically any home, if a hospital is out of the question, and the case may receive better and safer after-treatment than would be the case in a severe high forceps operation.

3. There seems to be no reliable statistic in regard to the fetal or maternal mortality in high forceps operations. However, any obstetrician appreciates the danger to the mother in high forceps, of ruptured uterus and its likely fatal sequel, to say nothing of the almost unavoidable damage to the cervix and perineum, eventually necessitating surgical repair under general anaesthesia and a sojourn in a hospital of at least two weeks. In high forceps we know that the fetal mortality is very great; that of those children who are born alive many die soon afterward, or, in the event of survival, are permanently maimed or disfigured. In caesarean section we obviate all damage to

the birth canal, reduce the danger of peritonitis to the minimum in all but the most unfavorable cases, and judging from case reports the danger from post-operative hernia and serious adhesions is almost negligible. From the standpoint of the child, the mortality ought to be nil.

As stated previously, I believe craniotomy is not to be preferred to Caesarean section except where there is no hope of a living child, or where from previous careless handling of the case, or existing pathological conditions, the danger to the mother from laparotomy would be unjustifiable.

I believe that the high mortality in this operation in the past has been due largely to the *fact that it too often has been used as a last resort,* under unfavorable circumstances, or where the mother was in a moribund condition. Results from more recent series of cases are much more favorable than those of a decade ago.

Reynolds reports over thirty cases with no mortality. Consequently it seems to me Caesarean section ought to be taken into consideration in every case of difficult labor and that with improved technique and elimination of unfavorable circumstances the operation will become one of the most common in abdominal surgery.

THE X-RAY AND ITS POSSIBILITIES IN SCIENTIFIC RESEARCH.

R. H. Pepper, M.D., Huntington, W. Va.

Read at annual meeting of State Medical Ass'n, May 22, 1913.)

In 1895 the scientific world was startled with the unbelievable statement of Roentgen's discovery of a peculiar ray of light that transcended all the then known laws governing the physics of light, unbelievable because of its properties of penetrating opaque bodies and its incapability of being refracted.

Just how near this wonderful discovery came to Crookes and to Leonard, a pupil of Hertz, and how it really came by accident to Roentgen is a matter of history and needs no repetition here, nor will we consume time in tracing the gradual experiments in perfecting the coil to generate the necessarily high voltage current and the vacuum tube to give us this wonderful light which its discoverer has called the X-ray.

The two important factors in the diagnostic value of an X-ray picture are in the skill of the operator in making it and his power of interpreting it after it is made, for a good picture may possess great diagnostic value and yet be overlooked entirely by the amateur, therefore to interpret becomes the crowning effort and the most essential part of skiagraphic work.

The X-ray picture is always a true picture. Its interpretation, however, is influenced by variable conditions, so that it is never more than one of the aids to diagnosis, its province being to corroborate or "to add the testimony of an eye witness to circumstantial evidence." There should always be a history of the case under consideration, a chain of systematic evidence to prepare for the reasoning involved in the interpretation of the skiagraph. As a link in this chain the skiagraph then becomes valuable as a diagnostic aid, especially in incipient cases of tuberculosis and in surgery, as in fractures, dislocations and the presence of foreign bodies.

Let us here emphasize the fact that an X-ray picture, to be a positive means of diagnosis, should be furnished by a skiagrapher who is equally familiar with the technical part of the exposure as well as the technique or developing the plate. Never depend upon a photographer to do the important part of developing the negative. He is ignorant of the points for which you are looking and may spoil your picture by either under or over development, more generally the latter.

In the early stages of tuberculosis the X-ray becomes a very important aid in diagnosis. For instance, a patient comes to you with the following history:

Loss of weight, rapid or otherwise; hectic symptoms prominent, eyes bright, flushed cheeks, etc.; evening fever of one or two degrees; cough with little or no expectoration; sputum, if any, showing an absence of bacilli; a physical examination of chest reveals nothing.

Could you *positively* diagnose tuberculosis? Refer this case to the X-ray specialist and a skiagraph of the lungs will show the

slightest deposit, if any, within the tissues and will enable you to say positively to your patient *you have* or *you have not* tuberculosis.

Your early diagnosis becomes important in this disease, for the earlier the treatment is begun the greater are the chances of recovery.

The surgeon would do well to refer his cases of suspected appendicitis, gall stones, etc., as well as fractures and dislocations. To show you the importance of this procedure the following two cases are reported:

CASE 1. An unmarried lady of 22 years of age had suffered from what was supposed to be several attacks of appendicitis with the usual pain and soreness over the region of the appendix, constipation, etc. An appendectomy was done with no relief from the symptoms. As soon as she left the hospital there was a recurrence of the old trouble. By the advice of the same surgeon, she submitted to a second operation; this time an oophorectomy, the ovary of the right side being removed, still with no relief. Shortly after this, she came of her own accord for an X-ray examination. After a bismuth meal there were two pictures taken, one showing the stomach hanging perpendicularly, instead of horizontally in the abdominal cavity, and twenty-four hours later a second picture was taken, which showed the colon lying in the pelvic cavity and twisted upon itself several times, just at the seat of the pain in the ileo-cecal region. This was evidence enough to diagnose the cause of her sufferings and dangers of two useless operations.

CASE 2. A married woman, aged 40, suffered from repeated attacks of pain in the region of the liver and with other symptoms her case was diagnosed as gall-stones. An operation was done for their removal, but no gall-stones were found. An X-ray examination plainly showed her trouble to be a neuritis caused from a lateral curvature of the spine, enough curvature to produce pressure upon the spinal nerves and a consequent neuritis, and yet slight enough to be easily overlooked by the surgeon.

It was my intention to show you these pictures with several others as equally interesting, but it could not be conveniently arranged.

As every busy physician does not do surgery, nor every practitioner a Wassermann, is it not just as important that the busy surgeon should refer his cases, especially if there exists the shadow of a doubt in his diagnosis, to the X-ray specialist?

While the ordinary X-ray plate, with its consequent flatness and lack of perspective, is such an important aid to diagnosis, it becomes necessary to speak of the later and still more valuable achievement of stereo-skiagraphy.

Its object is to make pictures which have the distance, perspective and plasticity of the real object. Its technique has been well described by Kassabian of Philadelphia, who summarizes the subject as follows:

The ordinary photographs and images look flat, while stereoscopic pictures which are made by two lenses, each being two and a half and two and three-quarters inches from each other (corresponding to the distance between the two pupils of the eyes), will be impressed on the retina as one picture, thus giving a perspective view. The technique of stereo-skiagraphy consists of taking two separate skiagraphs of the same part, on two different sensitive plates, without changing the position of the part, but displacing the position of the tube 2½ or 2¾ inches, corresponding to the distance of the pupils of the eyes.

The advantages of stereo-skiagraphy are obvious. In the bones, both long and short, the trabeculae are seen, and in the long bones we may see the arrangement of the lamellae in the shafts and in the cancellous tissue. In studying the mechanism of the joints these pictures give a perspective view of the relations of the articular surfaces of the bones and the actual depth and the relation of the processes. It becomes a most satisfactory method of locating foreign bodies, and in fractures it shows the exact location of the fragments and the amount of overlapping In dislocations the view will enable you to differentiate between an anterior and a posterior dislocation. In viewing the thorax we may see an anterior or a posterior aspect, depending upon the position of the plates. The heart, its position; the aorta, its relation to the vertebral column. The beautiful appearance of the thorax, the location of a cavity or consolidation, etc., are interesting from a practical as well as from a scientific standpoint. That X-ray is not a finished science goes without saying. The latest development is that of M. Pierre Goby's microradiographs, a description of which will be found in *Popular Electricity* for March. It is as follows:

M. Pierre Goby's new X-ray method is likely to work a revolution in microscopic work, as this is the first time that the rays

have been applied so as to show up the internal structure of minute specimens, although we are familiar with the results which are obtained with ordinary sized objects. He uses a special electrical apparatus for producing the X-rays and combines this with microscope devices in such a way that the rays show the otherwise invisible parts within the minute objects. It would be difficult, and in the majority of cases impossible, to see the structure in any other way. As an example, take a pinch of fine sand from the seashore. Putting it under the microscope we often find that it is made up of very minute shells which could not be detected by the eye.

Goby's apparatus now allows us to go farther and we see the inside structure of the shells or the remains of living animals, and he even discovers new species in this way where naturalists could not detect any difference from a simple outside examination of the specimens. The structure of the objects often reveals a regular design which is very attractive. Not only can the X-rays be used with microscopic specimens, but small animal specimens can be examined by magnifying them, say up to 20 diameters. The inventor is working on his apparatus at Grasse, France, and promises a more complete description later.

Does it require a long flight of imagination to picture in one's mind the immense advantage to be gained by such an apparatus? The aid to scientific research would be incalculable. This, it seems, would give a feasible method of studying microscopic objects from an entirely new viewpoint. To the naturalist it would bring to view the remains of small animal life that is now unknown. Let us hope that M. Goby is not a dreamer.

420 Eleventh Street.

ALBUMINURIC RETINITIS OF PREGNANCY.

L. C. Covington, M.D.,
Charleston, W. Va.

(Read at annual meeting of State Medical Ass'n, May 22, 1913.)

It was pointed out by Turck nearly a hundred years ago that amblyopia of albuminuria was in some cases due to visible structural alterations in the retina. In a case of albuminuria where one of the clinical symptoms was loss of vision, he made a post-mortem and gave the first histological description of albuminuric retinitis.

It was in 1830 that Bright published his observations showing that the onset of amaurosis was one of the most striking clinical features

While the retinitis rarely occurs until there is marked renal disease, the failure of vision from retinitis is often the first symptom for which the patient seeks advice. So it is that many cases are first seen by the specialist.

The retinitis albuminurica of pregnancy presents many peculiarities, on which account it should be considered alone. The loss of vision appears slowly in the course of weeks and months, and chiefly in primiparae, visual acuity diminishes gradually in both eyes without contraction of the visual field and without loss of color sense. Sometimes complete blindness occurs, particularly if eclamptic seizures accompany the disease. The blindness is traceable to uremia and usually disappears.

Transient or uremic blindness may occur in any of the various forms of renal disease when there is enough interference with the excretion of the kidneys to load the blood with those poisonous materials which give rise to the uremic condition.

This transient blindness is more often seen in the acute variety of renal disease. It is the tubal or parenchymatous nephritis that gives rise to the symptoms seen in pregnancy. I will not tax you with the ophthalmoscopic signs except to state that they are the same as those found in albuminuric retinitis from other causes, and while the picture is very suggestive similar changes are seen in some instances of brain tumor, syphilis, diabetes and lead poisoning.

The condition of the urine, the finding of albumin and tube casts, the condition of heart and great vessels will help to clear the diagnosis. It is of interest to note that gravidic retinitis is said to occur about once in 3,000 pregnancies. Albuminuric retinis may appear under the following conditions, according to Ball of St. Louis:

1. Where there is fatty degeneration of the epithelium of the uriniferous tubules.

Here the urine is scanty and dark in color, loaded with albumin and some hyaline casts, oftentimes granular casts also.

2. It may occur when acute nephritis takes place during pregnancy.

3. When an old nephritis is made worse with pregnancy.

The prognosis as regards life and vision is most grave when a chronic nephritis exists, since most of these patients die within two to five years. It is better in an acute nephritis, since complete cure of the eye and kidney symptoms may occur, and it is most favorable in the kidney of pregnancy. Should there be a persistent loss of vision we will find a complication such as atrophy of optic nerve or retinal detachment. If, however, premature labor is induced, the prognosis is much more favorable as regards vision; without the induction of premature labor the prognosis is most serious.

Culbertson's statistics show a recovery of full vision in 16 per cent. recovery of partial vision in 58 per cent, blindness is 25 per cent. Howe, in an analysis of cases extending over a period of 15 years, says: "These tend to show that, when the vision begins to be impaired in the last two weeks of pregnancy, recovery follows almost invariably. Of those described as being in the eighth month or thereabouts, when the retinitis commences, not one-half recovered, and several did not materially improve. Again when this began earlier than was estimated, as the seventh month, when nature did not interfere by bringing on a miscarriage, and when the patient escaped with her life, it was only to remain blind forever afterwards.

The permanent retinal changes are in the form of small white spots, of pigment degeneration, usually located in the macular region. All writers counsel the artificial termination of pregnancy when the renal disease is severe. Weeks of New York gives the following indications for the induction of premature labor: 1. Should albumin be found in the urine of a pregnant woman he advises the use of the ophthalmoscope from time to time to note the state of the retina. 2. Induce premature labor should albumin appear before the sixth month, but try to tide the patient over to full term if it does not appear until the eighth month. 3. Should retinitis develop between the sixth and eighth months induce labor only if the vision is impaired, that is to prevent loss of sight; or should the amount of albumin excreted be large and the amount of urea excreted be small, then labor should be induced.

Chronic interstitial nephritis may follow the nephritis of pregnancy. The more severe the nephritis in pregnancy the more danger there is of a chronic renal disease.

Finally Posy says that retinitis may occur in pregnancy without the presence of albumin in the urine; for instance, where the liver or other organs besides the kidneys are not equal to the extra work placed upon them by the excessive tissue changes that take place during pregnancy. Thus unusual form of toxemia may show itself quite early in pregnancy by pernicious vomiting, headaches, failing vision, epigastric pain and restlessness An ophthalmoscopic examination should be made in all these cases, as it may give great help to the family physician in locating the cause of the toxemia.

CASE. Patient, Mrs. S. White, age 41, multipara. Family history negative.

Personal history: Has had no severe illness. No complications in previous pregnancies or labors.

Present history: October 15, 1913, about 7½ months pregnant.

Family physician, Dr. Ira Champe, called in for the first time during pregnancy, on account of severe headaches, dizziness, and dimness of vision, which latter has been coming on gradually for past month. Dr. Champe reports finding patient with severe headache, pulse of high tension, face and limbs swollen. Vision so poor she could not distinguish features of her friends. Her general condition improved rapidly under treatment, but vision became worse. When I saw her five days later, she was free of headache, swollen condition of lower limbs greatly reduced, pulse practically normal, could not count fingers at two feet. Examination of fundus shows intense albuminuric retinitis.

Examination of urine by Dr. H. L. Robertson; large amount of albumin and numerous tube casts. Diagnosis, acute diffuse nephritis.

Ophthalmoscopic examination; pupils dilated with 5 per cent solution euthalmine hydrochloride. Both discs are almost hidden and slightly swollen, retina very hazy, numerous small flame-shaped hemorrhages, no characteristic stellate figure in either macula, but there are numerous white spots throughout retina. Those in peripapillary zone are very large, fleecy white masses varying in size from one-fifth to one disc area; several have coalesced. Even at a considerable

distance from papilla the retinal clouding covers isolated portions of the vessels. Most of these spots are rounded in outline giving the typical "mackerel sky effect."

October 24th patient given chloroform and forcible delivery performed by Dr. Champe and Dr. J. E. Cannaday. Baby a boy weighing three pounds. Today I understand he is a fine looking baby. The third day following delivery patient could read very large print. On tenth day could read ordinary newspaper print. November the 18th I found vision of right eye 20-40, of left eye 20-30, outline of nerve heads distinct. Spots of retinitis and hemorrhages rapidly disappearing.

Authorities quoted: Fuchs, Ball, Weeks, Darrier and Russell. Beard, Hirst, Culbertson.

Selections

TREATMENT OF VERNAL CONJUNCTIVITIS.

Aaron Brav, M.D., Ophthalmologist to the Lebanon Hospital, Philadelphia.

The treatment is palliative, and must be directed to relieve the annoyance of the patient, and keep him as comfortable as possible, during the hot or warm season of the year. Silver nitrate, which is of great benefit in the catarrhal form of conjunctivitis, is of no benefit in these cases, and in fact does harm by increasing the irritation. Strong cauterants such as copper sulphate, especially the blue pencil, are contraindicated and should not be employed. Our primary object in these cases should be to relieve the itching. Considering the fact that this symptom is never present in the cold season, one would naturally think of the application of cold as a beneficial agent. Clinical experience corroborates this idea. Cold applications applied daily give considerable relief. I am in the habit of advising my patients to bathe their eyes several times in ice-cold water during the day, and invariably I find that their burning sensation and their itching are practically relieved. It may not be amiss to mention the fact that the bathing in cold water also acts as a cleansing agent, removing what little discharge there is in the conjunctiva, and thus greatly increasing the comfort of the patient. Various drugs in the form of lotions have been recommended for the itching. Wicherkiewicz advises a 5-per cent solution of antipyrin. Acetic acid, from one to twenty drops to the ounce of water, has been used by many with success. I have tried practically everything advised by various clinicians, with very little success. Chinosol has given me no result. The best result I have obtained from the following routine of treatment. At the first visit I give a mild astringent:

Zinci sulphat., gr. j;
Acidi borici, gr. xxx;
Aquæ menthæ pip., ʒj;
Aquæ destillatæ, q. s., ℥iij.

Bathe the eyes t. i. d.

In the interval between I advise bathing with ice water, and prescribe also argyrol:

Argyrol, 20 per cent, fʒij.

One drop in each eye t. i. d.

The best local application in the office is a 25-per cent solution of boroglyceride; this invariably is followed by relief and keeps the patient in a comfortable condition. In the beginning I make this application every other day, and then increase the interval as the patient improves. After this treatment for a week or two I change for the following lotion:

Acidi borici, gr. xxx;
Adrenalin 1:1000, ʒij;
Holocain, gr. v;
Aquæ camphoræ, ℥ss;
Aquæ destill., q. s. ℥iij.

Filter solution.

I also prescribe:

Boroglyceride, 5 per cent, fʒj.

Sig.: One drop in each eye t. i. d.

Of course this preparation is burning, but is followed by a soothing effect, while the itching is totally relieved.

When the eyelids glue together, and this is usually the case before treatment is instituted, it is advisable to apply locally some fatty substance—lanolin or petrolatum, simple or medicated, at night-time to prevent gluing of the lids.

I do not think that surgical interference is warranted except when, as sometimes happens, there are present some large papules overhanging with a pedicle, when it is best to remove them by means of curved scissors, as they act as an irritant to the conjunctiva. Surgical interference such as grattage, as advised by some, is not very successful. The disease usually recurs in the form of a bulbar or corneoscleral type, and the patient is kept out of work

after operation for several weeks—in fact, it takes a month to fully restore the eye to a normal condition after grattage operation. To prevent recurrences the best thing to do is to keep on treating the patient during the winter season, although often this too fails to accomplish the desired end, and one has to wait until the disease has run its course, as it seems to be self-limited. The general condition of the patient must be looked after. There is no doubt that some constitutional dyscrasia constitutes an important predisposing factor in this disease. We often find children with vernal catarrh ill nourished, with enlargement of the cervical glands and other scrofulous manifestations. In these cases it is best to build up the patient with nourishment and internal medication. I find the following tonic useful in children:

Syrupi ferri iodid., ℥ss;
Liquor potassi arsenitis, ♏j to ♏ij;
Syrupi hypophosph. co., ℥ij;
Essentiæ pepsinæ, q. s. ℥iij.

Teaspoonful t. i. d.

For the photophobia smoked glasses should be advised. Regular and plenty of sleep and fresh air are essential for a cure.

THERAPEUTIC GAZETTE.

GIVING DRUGS TO INFANTS AND CHILDREN.

Elias H. Bartley, M.D., Brooklyn, N. Y.

In the treatment of children there is more necessity of knowledge of detail than in the treatment of adults. A lack of knowledge and an unwillingness to bother with the minute details of management are the chief obstacles to success in the treatment of the infant. In the treatment of children, even more than in that of adults, therapeutic ignorance is the father of therapeutic nihilism.

There are two opposing faults in the administration of remedies to infants, both of which are entirely too frequently met with. These are absence of interest or ability leading to neglect and therapeutic meddlesomeness. Neither of these leads to the desired end, but often to a change in the physician.

There are three ideas which should occupy the mind of the physician who is called upon to treat a baby. These are the benefits to be accomplished, the possible harm to be done by the treatment, and the intelligence of the mother to carry out the directions. The drug treatment of an infant, although essential, is so often but a small portion of the treatment to be directed, and the faith of humanity in drug treatment is so strong that the overanxious and tired mother is apt to forget all other instructions and remember only the "medicine." Much judgment is necessary on the part of the prescriber of medicines; little or no judgment on the part of the mother or nurse may bring the greatest skill to nought. An intelligent mother will, if properly instructed, put aside her prejudices and whims when the physician's instructions appeal to her reason.

A clear idea of what is to be accomplished by treatment involves a clear conception of the action of the remedies prescribed. No medicine is to be included in the prescription without a distinct indication. When we have decided in our minds exactly what is indicated the next thought should be how to get it or them into a palatable form that will not disturb the gastro-intestinal organs of the child. Digitalis, for example, may seem to be the drug needed, but it would be useless to ask a mother to give the undisguised infusion. In bronchitis or pneumonia, ammonium carbonate, dissolved in syrup of tolu or syrup of wild cherry bark, might be thought of. Such a mixture is certain to seriously interfere with the child's digestion and do more harm than good.

It should be kept constantly in mind that the child's gastro-intestinal mucous membrane has a predominating influence over the whole body—an influence not known or seldom seen in the adult. Anything which irritates this membrane is a serious hindrance to recovery from any other disease.

Palatability and freedom from disgusting or irritating qualities should be of the first importance in a prescription for a child. We may at times find it necessary to sacrifice what may seem to be therapeutic efficiency for the sake of palatability. This will depend, however, upon our knowledge or skill in the art of directing how to make a mixture palatable. We cannot insist too strongly on a study of palatability in prescriptions intended for children.

The dose of medicines to be given to

young children should be small, because they are given undiluted, followed, in older children, by water. It is impracticable to give a dose of large volume to a baby. The U. S. P. and N. F. provide a number of medicated waters, elixirs and syrups designed especially as flavoring solutions which, with the aid of judgment, may be used as diluents for the potent and disagreeable drugs. Aqua anisi, aqua chloroformi, aqua aurantii florum, aqua fœniculi, elixir adjuvans, digestivum comp., aromaticum curassio N. F., and eriodictyi aromatici, syrupus acaciæ, aurantii florum, calci laatophosphatis N. F. are examples of such flavoring agents, the judicious use of which will disguise almost any one of the otherwise disagreeable medicines.

Powders, especially bulky powders, should not be prescribed for children. They are difficult to administer, are frequently spilled and are easily thrown out of the mouth by the average rebellious child and lost. A nearly or quite tasteless powder like calomel or chalk can be mixed with a baby's food and given in this way, if the baby takes food other than the breast.

Very bitter drugs, such as quinine salts, creosote compounds, ichthyol and camphor, are the most difficult drugs to disguise. The aromatic syrup and elixir of yerba santa and adjuvant elixir are the best for this purpose. Quinine salts rubbed into a paste with spirits of chloroform and suspended in one of these liquids will be taken by almost any child with little difficulty. Creosote carbonate rubbed up with sweet almond oil and shaken with equal parts of aromatic syrup of yerba santa and water will be taken by most children for some time without objection or apparent digestive disturbance.

Limitation of space forbids our entering into a full discussion of the art of elegant prescription writing, but enough has been said to impress the importance of the study of palatability in prescriptions intended for the child, as well as therapeutic effect and freedom from harm.

In the hands of the physician who knows when and how to use medicinal agents they are just as necessary and useful as they ever were in the treatment of disease, and those who express a lack of faith in them expose their incompetency to use them intelligently.

LONG ISLAND MEDICAL JOURNAL.

MALT SUGAR AND CASEIN IN INFANT FEEDING.

Dr. J. Lovett Morse has an interesting paper on this subject in the *American Journal of Diseases of Children*, from which we quote his reference to Finkelstein and Meyer's views:

They sum up as follows: Sugar is the special and primary cause of fermentation. Neither normal nor abnormal acidification can take place without it. The fat is never involved primarily. It is injurious in that it causes an acid fermentation. The fermentation of the sugar is dependent on two main factors—first, the concentration of the whey, more or less work being thrown on the intestinal epithelium according to whether the concentration is more or less suitable for the intestine; second, the relative proportions of casein and sugar in the mixture. Here, therefore, as always in matters of nutrition, when considering the chemistry of the intestine, it must be remembered that it is impossible to judge of the action of one element alone, and that the final result depends on the relative proportions of the various organic and inorganic elements of the food.

They conclude, therefore, that the principles on which the preparation of a food to combat intestinal fermentation depend are: a diminution in the quantity of milk sugar, a diminution of the salts through dilution of the whey and an increase in the casein, with varying and, under certain circumstances, not inconsiderable amounts of fat. After improvement has begun an easily assimilable and consequently little fermentable carbo-hydrate should be added. They consequently developed a food to meet these indications, to which they gave the name of "Eiweissmilch." This food is prepared as follows:

Heat one quart of whole milk to 100 F. Add four teaspoonfuls of essence of pepsin and stir. Let the mixture stand at 100 F. until the curd has formed. Put the mass in a linen cloth and strain off the whey from

the curd. Remove the curd from the linen cloth and press it through a rather fine sieve two or three times by means of a wooden mallet or spoon. Add one pint of water to the curd during this process. The mixture should now look like milk and the precipitate must be *very finely* divided. Add one pint of buttermilk to this mixture.

Finkelstein and Meyer use buttermilk in the preparation of this food for the following reasons: (1) because of the small amount of milk sugar which it contains; (2) to obtain the good effects of the lactic acid, and (3) because buttermilk can be kept for a long time.

The composition of this food is:

Fats	2.5 per cent
Sugar	1.5 per cent
Proteid	3.0 per cent
Salts	0.5 per cent

One quart of this milk contains about 370 calories.

They used this food in a great variety of conditions accompanied by diarrhœa, such as dyspepsia, decomposition, intoxication and parenteral infections, and in their original paper claimed good results in all, but not in the new-born.

The general principles laid down by them for the use of this food in these conditions are as follows: A preliminary catharsis, if necessary, followed or not by an initial period of starvation and tea diet, as the case may be; small amounts of casein milk; larger amounts of casein milk; the addition of some carbohydrate other than milk-sugar or cane-sugar, preferably some dextrinized preparation of malt-sugar. They claim that the loose, green stools are quickly replaced by typical soap-stools and that the addition of malt-sugar does not cause a recurrence of the symptoms of fermentation. They call attention to the fact that on account of the low nutritive value of the food there is certain to be a loss of weight in the beginning of the treatment. This is followed by a stationary period, then, when the amount of food is increased and carbohydrates added, by an increase in weight. They found that babies could be kept on this food for months and continue to thrive.

THE BEDBUG.

The alleged humor of which the bed bug, or to give him his dignified Latin name, *Cimex lectularius,* has been the subject, should not obscure the serious role played by the bug in common with the fly, the mosquito, the flea and the louse as a conveyor of infection. Relapsing fever, bubonic plague, kala-azar, small-pox and typhoid fever have been transmitted by various species of the bedbug, and possibly the investigator might find here the explanation of otherwise inexplicable endemics in uncleanly neighborhoods. Epidemics of small-pox have been disseminated in cheap lodging-houses by this polecat among insects ;and were it not for the frequent vaccinations compelled by health departments, such epidemics would very likely be more frequent than they are now. The bedbug hides during the day and sometimes hibernates during the winter. When it lacks animal food, it feeds on the juices of decayed wood or on the dust in floor cracks, and can go without food for a long time. It may continue its existence under adverse circumstances from season to season, in lumber camps, in summer houses, empty apartments and the like.

The housewife is greatly mortified by the creature's presence under her roof; but she is by no means always blameworthy. It may get into the travelers' trunk or satchel from an uncleanly hotel or sleeping-car or invade the home in the laundry or on the clothing; thus Manning witnessed the migration of a bedbug across the aisle of a car from a sick man to the skirts of a party of women. Or it may migrate through walls from one house to another, sometimes in a continuous pilgrimage, especially when the dwellers of an infested house move away, thus cutting off the commissariat of the parasite. It may then escape through windows as well as walls, along water-pipes or gutters to new pastures. Thus the tidiest housewife may be victimized. Apart from ordinary dwellings, log cabins easily become infested; ships also entertain the bedbug in considerable degree. Poultry-houses, dove-cotes and the hiding-places of bats may easily become infested with the bedbug or nearly related species, and sparrows' and swallows' nests under eaves, which are often alive with the vermin, may be their portal of entry into houses.

A thorough extermination of the bedbug would result also in the extermination of other dangerous insects infesting houses. The local application of boiling water will kill a few bugs and drive others away, but serious efforts at extermination require fumigaton. To be thorough, according to *The Journal of the American Medical Association,* this should be done systematically by the municipality. Manning has called attention to bedbug extermination as one of the measures to be employed in the prevention of all diseases whose virus is present in the blood of the patient during the acute stage of the disease. Of all methods Manning says that there is none which would exceed in effectiveness the annual compulsory fumigation of all habitations of man.

The West Virginia Medical Journal

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WHEELING W. VA., JULY, 1913

THE JOURNAL is issued on the first of each month.

Subscription, - - - - - - $1.00 per year
Single Copies, - - - - - - - 15 cents

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Editorial

HEAT AND HEALTH.

The hot weather is upon us, and in order that life may be made as comfortable and safe as possible it should be the aim of all to avoid the strenuous and the exciting as much as possible. We read with some surprise in the daily papers that Miss Blank is giving a party for the entertainment of Miss Jones, or that a tennis tournament has been arranged between the A Club of Smithville and the B Club of Somewhere, or that a six-course dinner was given to a party of gentlemen on Friday evening at the X Club. All these things are out of season and likely to make business for the doctor, the minister and the undertaker. To live in quiet at home, to work as little as the demands of the family will allow, to take a siesta each day when possible; in short, to loaf and rest body and soul to the fullest extent circumstances will permit, these are the things that make for health of body and mind. A quiet corner on the shady porch or on the lawn as the evening shades are settling over the earth is preferable to a bridge party, a dance, lawn tennis, or even the more quiet golf game. We cannot entirely escape the work and worry of the busy daytime, and hence the greater need of the quiet evenings in which to rest and recuperate.

And the babies—what shall we do for them to prevent or lessen the fearful mortality that is sometimes called disgraceful? Much of it is the result of the ignorance of parents certainly, and this the medical profession has for years been trying to diminish by private and public instruction. There are still many mothers who burden their babies with the flannel band even in the hottest weather, not appreciating the fact that the cooler the child can be kept on a hot day the less liability is there to an attack of gastric or intestinal disease. Nor have all mothers yet learned the benefit of several cool baths a day during the very warm weather. If they would only let the baby go with a thin slip and give it several cool spongings each day when the thermometer is hovering around the nineties, they would soon learn that the sleep would be more restful, the appetite improved, the digestive apparatus in better condition and the visits of the doctor less frequent. A little common sense applied to the management of children is quite useful. What mother would burden herself with useless clothing in the hottest days of summer? She knows enough to keep herself comfortable by lightening her own clothing—at times removing too much even—but still persists in punishing her helpless babe with an excess of flannel simply because it is a baby. Let the family physician teach the better way, and good results may be expected.

How many of the ignorant poor yet know that every possible window should be open these hot nights. How many neglect the necessary cleanliness, the daily washing of the body and especially of the feet of young children, the frequent cleansing of the teeth and mouth, the avoidance of unripe fruits and other improper food. How few, indeed, give great care to the things that make for the prevention of disease, rather waiting until the advent of illness commands the presence of the doctor. And how many even delay sending for this messenger of health until too late for the suc-

cess of the best directed efforts. We were recently called to a case in a beautiful girl of less than four years, who had been ill a week, with sore throat for three days, and found tonsillar, nasal and laryngeal diphtheria and a condition of toxemia that manifested itself by pronounced stupor. Nineteen thousand units of antitoxin within 27 hours brought the child back to life, but we cannot depend on such a result in every case. Much better to have the proper treatment on the first day of illness, when the chances of recovery are so much greater. Parents must be instructed in these important things, and they are learning much in these days of preventive medicine of which former generations of the laity knew nothing. For this the public is indebted to the unselfish efforts of the medical profession, ever alive to the interests of the people. Although not always appreciated, let us keep on in the good work of instruction, and the time will surely come when even the politicians will arise and "call us blessed."

After the above was written we find this, from the Postal Life Insurance Co. Bulletin, in a pigeon hole, and it seems worth adding, although some ideas are repeated:

It is possible to have a "bully" time without getting so close to Nature that it takes six months to recover and become again civilized. If "back to Nature" means to move about in the woods and fields and drink in the glory of the earth and sea and sky, it is a good slogan; but if it means an effort to leap backward about thirty thousand years in three weeks it is not a slogan for health.

After all, "Nature" is but another word for environment. If we are surrounded by civilized conditions, we must adjust ourselves to such conditions and not attempt by violent means to attain adjustment to the environment of the caveman. This means: exercise moderately during vacation; loaf enough to relax but not enough to soften; get a good, refreshing bath every day, but avoid prolonged immersion, especially in fresh water. *Keep your head covered from the sun,* unless you wish to invite heat-prostration, and even baldness. Pure water! Pure milk! Fresh fish! Be sure about these things in hot weather. Avoid surface-wells and springs in the vicinity of dwellings, or *boil the water.* Protect food from the housefly. Avoid the common swimming-pool with its bacteria-laden water, or at least do not dive into it and take the risk of infection. Look out for the mosquito that flies in the early evening.

Clear up! Clean up! Clean up your farm, door-yard, cellar and premises! Burn rubbish and garbage; drain stagnant pools; attend to sewage disposal. Time and money thus expended will save doctors' bills—perhaps lives.

Eat moderately; exercise within your limits remembering that after forty there *are* limits; interest yourself in something worth while; avoid alcohol and keep your nervous system in smooth working order, and there are few places in this country where the fluctuations of the thermometer can really harm you.

S. L. J.

THERAPEUTICALLY SUGGESTIVE NAMES FOR MEDICINES.

The following statement taken from a circular sent to pharmaceutical houses by the Council on Pharmacy and Chemistry (Journal A. M. A., March 30, 1912, p. 953) explains the objections to names for medicines which are therapeutically suggestive: "Names which are suggestive of the diseases or conditions in which the remedy is said to be indicated are objectionable because the layman becomes familiar with the names of such remedies and their uses through physicians' prescriptions and is thus led to use them in indiscriminate and harmful self-medication. Names which might not be directly understood by the layman would, in many cases, be understood by the druggist, who would be inclined to recommend the preparations as specifics to the public, without a due knowledge of the range of their values and of the symptoms in question.

"But even if the name of a remedy did not disclose its proposed use to the laity, it is still objectionable if it suggests to the medical man the diseases or conditions in which the remedy is to be used. This for the reason that the thoughtless physician will base his use of the remedy on the name without giving due consideration to the condition and symptoms of the patient."

THE FRIEDMANN TREATMENT.

Dr. John F. Anderson, chairman of a board of officers of the United States Public Health Service, to which was committed the investigation of the Friedmann treatment, has issued the report of the board, from which we extract the following:

We believe that at the present time we are not in a position to express an opinion based on the present condition of patients under observation. The disease for which the remedy is used is prolonged, and is characterized by periods of advancement and retrogression; it is also one in which psychic influences are a powerful factor. Time is, therefore, necessary in order to properly evaluate the effect of therapeutic measures.

We must not lose sight of the possible therapeutic value of this preparation and, on the other hand, it is necessary to guard against too great an optimism in respect to its merits. Without presenting in detail the condition of patients under observation we are in a position to state that the effects thus far observed do not justify that confidence in the remedy which has been inspired by widespread publicity. In our opinion harm may have been done by this undue publicity in so far as it has lessened the confidence of tuberculous persons in well-recognized methods of treatment or interrupted their use, and we are constrained to advise against any lessening of those well-known measures which not only have effected cures but which have reduced the incidence of the disease.

We are aware that Dr. Friedmann does not wish to be judged scientifically on newspaper statements, and he would undoubtedly disclaim responsibility for certain of those which have appeared. Nevertheless, it is on those that the public bases its opinion until replaced by reliable and unbiased scientific pronouncements supported by convincing data.

In his published address before the Berlin Medical Society Dr. Friedmann stated that the intramuscular injection was the standard or "sovereign" method of administering his treatment, but that it offered some difficulties, which were overcome by the combined or simultaneous intravenous and intramuscular method. The chief difficulty seems to have been that in certain individuals the "normal" local reaction (consisting of the development of an infiltrate from the size of a nut to that of an apple, which becomes gradually resorbed), either fails to develop any palpable induration whatever, or the infiltrate breaks down in the form of a discharging abscess. According to his article the course to pursue seems to be, in the first instance, to repeat injections at long intervals until the development of "hypersusceptibility" causes the formation of an ideal infiltrate, or, in the second instance, to refrain entirely from further treatment for a prolonged period, since "further injections will only subject the patient to more abscesses without doing him any good."

Cases of this kind, therefore, would apparently be in need of treatment, according to Dr. Friedmann's ideas, for a long period of time. In our series of patients Dr. Friedmann has almost exclusively made use of the intramuscular method alone in pulmonary cases and a very considerable portion of them have either developed no considerable infiltrate at all or have suffered from abscess formation. It is evident, therefore, that a very considerable proportion of these patients may expect their treatment at the hands of Dr. Friedmann to extend over a prolonged period.

Concerning the culture submitted to us, we may state that a series of experiments is under way. The bacillus has been found to be an acid-fast organism, having properties quite different from those of any tubercle bacillus with which we are acquainted. It appears to be identical with an organism cultivated from a few loopfuls of the material used for injection which Dr. Friedmann permitted us to place on culture media in his presence. We requested Dr. Friedmann to furnish us with a larger amount of this material for examination, but this he has declined to do. We can state, however, that living acid-fast bacteria are being injected by the intramuscular and intravenous method, although we are ignorant of what medium they are suspended in or what additional substance or substances may be contained in the final mixture.

A LESSON FROM MR. POTASH.

A musical friend asked Abe Potash what he thought of Strauss. Abe replied, "Oh. I guess he's all right," and talking to Morris the next day said, "They weren't going to catch me knocking a competitor." Abe was a business man and knew that the surest way to give himself a black eye was to knock a competitor. His misconception as to the personality of Strauss does not alter the truth of his opinion on business expediency, which truth should be kept in mind by every physician. The public will attribute to jealousy every disparaging remark made by one doctor against another.

A patient made the remark the other day, "Dr. Blank must have a good practice. He speaks so well of all the other doctors." Putting aside our ethical obligations, it is very clear that "good business" demands that we speak well of the other physicians in our community.

It is not enough that we refrain from actual knocking, as often our silence has the same result. When we defend another physician from the unfair accusations of patients or praise his skill, we boost ourselves and better still, we boost the great profession to which we belong.—*The Mirror,* Fayette County, (Pa.) Medical Society.

AN EARLY REFERENCE TO INFECTION CARRIERS.

That healthy persons may be carriers of infection by the persistence of disease germs in the healthy human body has been known for fifteen or twenty years. The possibility of this kind of carrier of infection does not seem to have been at all familiar to our forefathers, and yet the conception seems to be expressed quite clearly by Richard Mead, the father of quarantine, when he said, in 1721: "If there be any Contagious Distemper in the Ship, the *Sound* men should leave their cloaths, which should be burnt; the men washed and shaved; and having fresh Cloaths, should stay in *Lazaretto* thirty to forty days. The reason for this is, because Persons may be recovered from a Disease themselves and yet retain *matter of Infection* about them a considerable time." In these words, says *The Journal of the American Medical Association*, are expressed a truth the significance of which was not clearly grasped until nearly two hundred years after they were written. Richard Mead is the author also of the following dictum, which, besides its general application, has a very special meaning for the typhoid carrier: "As *nastiness* is a great source of *Infection,* so *cleanliness* is the greatest *Preventative.*"

MINUTES OF THE FORTY-SIXTH ANNUAL SESSION OF THE WEST VIRGINIA MEDICAL ASSOCIATION, MAY 20-23, 1913.

HOUSE OF DELEGATES.

TUESDAY, MAY 20TH, 9 P. M

Called to order in the Assembly Room, Hotel Kanawha, by President Frank LeMoyne Hupp.

Delegates present—Hupp, Linsz, Thornton, Rodgers, Aschman, Jones, Halterman, Scott, Jeffers, Murphy, G. B. Capito, J G. Capito, Haley, Mairs, McConihay, Weirich, Link, Sites, Oates and Butt.

The Secretary read the following report:

Secretary's Report for 1912.

Mr. President and Fellow Members of the West Virginia State Medical Association:

Our membership for 1912 is 843, divided among component societies as follows:

Barbour-Randolph-Tucker, 60; Boone, 9; Braxton, 8; Brooke, 8; Cabell, 50; Doddridge, 5; Eastern Panhandle, 35; Fayette, 47; Grant-Hampshire-Hardy-Mineral, 30; Greenbrier Valley, 26; Harrison, 57; Hancock, 6; Kanawha, 60; Lewis, 17; Logan, 6; Little Kanawha and Ohio Valley, 45; Marion, 44; Mercer, 39; Marshall, 22; McDowell, 35; Mingo, 14; Monongalia, 21; Nicholas-Webster, 17; Ohio, 69; Pleasants, 4; Preston, 23; Raleigh, 19; Ritchie, 20; Summers, 10; Taylor, 14; Tyler, 8; Upshur, 13.

We received 80 new members; lost by removal 23, non-payment of dues 35, deaths 5.

During the year Pendleton dropped out, Lewis-Upshur divided so that the number of component societies remains the same. Some of these societies can not be said to have more than a technical existence.

During the past year I compiled some statistics bearing on our standing throughout the state. Gave the nuuber of members and non-members in each county and in each councilor district. This should be of service to the Council, as it will show just where their work is most needed. As this was published in the November issue of the JOURNAL, I will not repeat it here. Suffice it to say that there is much room for organized effort towards increasing our membership.

Allow me again to call your attention to the fact that there are physicians holding state offices who do not belong to any medical organization. Let us keep up an agitation against this abuse until it is done away with. Already our efforts have borne fruit; some of the wayward ones have seen the handwriting on the wall and have hastened to come in. Eleventh hour repentance is better than none, good enough for the private in the ranks but in my humble judgment not sufficient for an officer.

Our program has always been too long, this year being no exception. Lately in looking over some programs from other states I note that Maryland, with a membership of 1046, had 24 papers; Wisconsin with a membership of 2652 had 24 papers; Connecticut with a membership of 833 had 14 papers; Massachusetts with a membership of 3288 had 21 papers.

The length of our program is due to two factors: the unwillingness of our members to offer papers earlier in the year and their unwillingness to write articles for the JOURNAL. Last year I advised that the meeting be divided into sections. This has been done and will this year demonstrate its usefulness or lack of it.

If I understand the reorganization, one of its purposes was to have the business affairs handled by a small group of men, leaving the majority of the members to go on with the regular program.

Last year the number of Delegates was considerably over 50 per cent of the total number of members present. I therefore recommend that the number of Delegates be reduced by an amendment to the By-Laws. In my estimation the amendment should be so framed that the county secretary be the First Delegate.

I am very happy to report that there exists a much better fraternal feeling among our members than formerly.

We are beginning to feel that our Association means something. The finest compliment I have ever heard paid the Association fell from the lips of the lawyer in charge of a suit for malpractice against one of our number. The judge called his attention to the fact that he had not introduced any *medical* testimony to support his case. He replied: "There is such evidence but I can't produce it. I wish furthermore to say that I do not believe we will ever be able to get such evidence as long as this medical society exists."

I think we are rapidly coming to the point when we will look down on the physician who assists in any way in the furtherance of a malpractice suit.

A somewhat abbreviated account of the income and expenditures of the Associaton might not be amiss as I find many members with no well defined idea of our business affairs.

Full detailed account of each bill I have approved for payment has been presented to the Council.

Income—

Membership dues, 843 members @ $2.00	$1,686.00
Defense fund, 842 members @ $1.00	842.00
Refund from Defense Fund for expense of publication	30.00
From JOURNAL for advertising and subscriptions	981,07
	$3,539.07

Expense—

JOURNAL Fund, 843 members @ $1.00	$ 843.00
Defense Fund, 842 members @ $1.00	842.00
Salary of Editor	1,000.00
Salary of Secretary	300.00
Salary of Treasurer	100.00
Salary of Assistant Editor	25.00
Grant-Hampshire-Hardy-Mineral refund, over payment	3.00

Printing and Postage	127.95
Stenography for Council	2.00
Bond for Treasurer	10.00
	$3,278.95

You will note that acting on a resolution passed last year, I am reporting on the calendar year of 1912, not from time of last meeting. This simplifies matters very much indeed.

Respectfully submitted,

A. P. BUTT,
Sec'y W. Va. State Medical Association.

On motion the report was referred to a committee composed of Drs. Rodgers, P. A. Haley and G. A. Aschman.

The report of the Treasurer was read and referred to the Council for audit.

TREASURER'S REPORT.
WEST VIRGINIA MEDICAL ASSOCIATION

To HUGH G. NICHOLSON, *Treasurer.*

1912		DR.	CR.
July 10	To check, Dr. S. L. Jepson, salary	$ 500.00	
" 10	To check, Dr. A. P. Butt, salary	300.00	
" 10	To check, Dr. H. G. Nicholson, salary	100.00	
" 19	To check, W. Va. Medical Journal, subscriptions, 1911	8.00	
" 19	To check, Sallie Keldow, stenographer	2.00	
Nov. 13	To check, Lohmeyer, Goldsmith, Patterson Co., bond	10.00	
Dec. 7	To check, Dr. G. D. Lind, services Jour-	25.00	
1913			
Jan. 10	To check, W. Va. Medical Journal	230.00	
" 10	To check, H. G. Nicholson, telegrams	.93	
" 16	To check, Dr. A. P. Butt, postage	23.37	
" 16	To check, Dr. S. L. Jepson, salary	500.00	
Mch. 1	To check, Medical Defense Fund	100.00	
" 4	To check, W. Va. Medical Journal	400.00	
" 17	To check, the Davis News, printing	44.25	
" 22	To check, W. W. Golden, postage	1.00	
" 22	To check, Inter-State Printing Co	8.00	
May 8	To check, St. Louis Button Co	12.50	
" 20	To check, H. G. Nicholson, Treasurer	100.00	
" 20	To check, A. P. Butt, Secretary	300.00	
" 20	To check, Medical Defense Fund	695.00	
" 20	To check, cash on hand	1,130.64	
1912			
July 8	By amount brought forward		$1,049.82
Aug. 6	By amount from Medical Defense		30.00
" 23-'12	to date by amount from Dr. A. P. Butt, dues		2,428.00
Jan. 14-'13	By amount from W. Va. Medical Journal		982.87
		$4,490.69	$4,490.69

Correct.

T. K. OATES,
H. R. JOHNSON,
H. P. LINSZ, *Chairman.*

Adjourned at 9:30 p. m. to meet at call of President Hupp.

THURSDAY, MAY 22, 1913.

By request of the Committee on Secretary's Report and of Dr. J. E. McDonald, the President called a meeting for the purpose of receiving two amendments to By-Laws. These amendments were laid on table for twenty-four hours.

FRIDAY, MAY 23D, 9:30 P. M.

House called to order by President Hupp.

Election of officers resulted at follows:

President—Richard E. Venning, Charles Town.

First Vice President—C. W. Scott, Bluefield.

Second Vice President—F. B. Murphy, Philippi.

Third Vice President—James E. Cooper of Cameron.

Secretary—A. P. Butt, Davis.

Treasurer—H. G. Nicholson, Charleston.

Councilors:

First District—H. R. Johnson, Fairmont.

Second District—R. H. Edmundson, Morgantown.

Third District—P. A. Haley for one year, B. B. Wheeler for two years.

Fourth District—J. E. Rader, Huntington.

Delegate to A. M. A.—J. L. Dickey, Wheeling.

On motion of Dr. C. O. Henry, the President appointed a committee of three to nominate members on the Committee on Public Policy and Legislation.

This committee—Drs. Henry, Link and Anderson—nominated Drs. G. A. MacQueen, C. O. Henry and E. F. Peters. Unanimously elected.

Bluefield was selected as the next place of meeting, May as the month.

Committee on Presidential Address reported as follows:

Gentlemen: Your committee to which was referred the President's address report favorably his recommendations, as follows:

1. The appointment of a committee on Medical Economics, whose duties shall be, among other things, the betterment of economic conditions of the practicing physician, including a discussion and report on eugenics.

2. The adoption of a resolution endorsing the stand of the Congress of American Physicians and Surgeons regarding cancer and the campaign of publicity.

3. Endorsement of the Owen's bill for the establishment of a National Department of Public Health.

4. A better understanding of the State's responsibility for its school children, with recommendations to the State Board of Education, including the establishment of a free dental clinic.

5. The recommendation of a law which will permit an autopsy, in event of death, on every patient who receives treatment in a public hospital or asylum.

6. Recommendation for the establishment of a Department of Progress of Medical Science for our West Virginia State Medical Journal.

7. Recommendation to the Board of Regents of the State University at Morgantown to place the curriculum of the Medical Department on a higher plane, and to so adjust things that it will measure up to class "A" of the requirement of the Council of Education of the American Medical Association.

8. A more liberal interpretation of the reciprocity law.

9. Passing of a by-law that will permit a member of the House of Delegates to be eligible to offices of the Association other than the President.

10. Ex-Presidents to be members of the House of Delegates.

11. An additional member to the program committee.

12. An abstract of each paper to be a part of the program of the annual meeting.

13. The institution of a quarantine against whooping cough.

14. The passage of a law requiring that caustic lye be marked poison.

C. R. WEIRICH,
J. MCKEE SITES,
W. W. TOMPKINS.

The committee also offered a resolution to amend the Constitution. "Article V of the Constitution is hereby amended to read: The House of Delegates shall be the legislative and business body of the Association and shall consist of (1) Delegates elected by the component societies, (2) the Councilors, (3) all ex-Presidents, and (4) ex-officio the President and Secretary of this Association." Laid on table for one year.

Dr. C. H. Weirich offered the following resolution:

"Whereas, it is recognized by the Medical Fraternity throughout the State that the method of obtaining diphtheria antitoxin is unsatisfactory; therefore, be it

"Resolved: That the West Virginia State Medical Association go on record as favoring legislation looking to the free distribution of antitoxin by the State under the direction of the Boards of Health of State, County and City."

Carried.

The resolution to amend the By-Laws introduced by the Committee on Secretary's Report on a preceding day, was put to vote and carried, viz.:

Sec. 2, Chapter IV, shall read: "Each component society shall be entitled to send to the House of Delegates each year one delegate, who shall be the society's secretary, and one additional for every twenty-five or fraction thereof above ten members."

Dr. J. E. McDonald's resolution introduced on preceding day to amend Sec. 8, Chapter IX, by striking out the words "on request" was carried.

Adjourned.

FRIDAY, 5:30 P. M.

On motion of Dr. Butt, the President appointed a committee on necrology, consisting of Dr. C. A. Wingerter, Chairman, and Dr. W. H. Sharp. Dr. H. P. Linsz, Chairman of the Council read his report.

REPORT OF COUNCIL.

The Annual Meeting of Council was held May 21, 1913, 12:30 P. M., at Charleston, W. Va.

Present: Drs. Link, Jeffers, Wheeler, Johnson, Haley, Oates, Rader, Linsz, (Chairman) Edmundson and McDonald.

Matters of importance pertaining to the welfare of the Association were thoroughly discussed.

The various reports from the different districts showed the Association to be in excellent condition. The reports showed an increase in membership in many of the County Societies, the Financial report of the Editor of the Journal, Dr. S. L. Jepson, showed a small balance in the Journal Treasury; in fact, the Association as a whole appeared to be in a prosperous and healthy condition, notwithstanding the fact that but ten months had elapsed since the meeting in 1912.

The Committee on Medical Defense made a lengthy report, which was very encouraging Received and filed.

The Committee reported three suits for malpractice instituted against three of the members of the Association. One had been tried and decided in favor of the defendant, thereby being a victory for the Association in its first malpractice suit under the new by-laws. The remaining two suits will come up for trial during the June term of Court.

The financial report of the Treasurer of the Medical Defense Fund was audited and found correct, as follows:

MEDICAL DEFENSE FUND.

TO HUGH G. NICHOLSON, *Treasurer.*

1912		DR.	CR.
Aug. 6	—To cash to General Fund for postage	$ 30.00	
1913			
Mch. 1	—To retainer fee, John W. Davis (1912)	100.00	
" 22	—To W. Va. Printing Company	8.50	
May 20	—To note bearing 6% interest	1,387.60	
" 20	—To cash on hand	686.50	
1911			
Oct. 1	—By cash at 4% until August 6, 1912		$1,000 00

1912		
Aug. 6—By cash		387.00
" 6—By interest on time deposit		30.61
1913		
Mch. 1—To cash from General Fund		100.00
May 20—By cash from General Fund		695.00
	$2,212.61	$2,212.61

Correct.

T. K. OATES,
H. R. JOHNSON,
H. P. LINSZ, *Chairman.*

The financial report of the Treasurer, H. G. Nicholson, was examined, audited and found correct.

The annual report of the Committee on Publication, read by Dr. S. L. Jepson, was examined, audited and found correct.

The financial report of the Secretary, A. P. Butt, was examined, audited and found correct.

Signed: Drs. W. S. Link, H. R. Johnson, H. P. Linsz.

REPORT OF THE COMMITTEE ON PUBLICATION.

Wheeling, W. Va., May 21st, 1913.

To the West Va. State Medical Association,

Gentlemen:

In submitting our annual financial report, permit a few suggestions, which may have been given in previous reports. Some lessons need to be frequently impressed. 1.—Every year we lose from fifty to a hundred dollars from lapses in membership, such members receiving the Journal the whole year, and no pay coming to us for it. This can be prevented by an alert secretary, who can ascertain early in the year what members are going to lapse. This should be known by April at latest. 2.—Our chief source of revenue is from advertisements. These should therefore be encouraged. The members should patronize our advertisers as far as possible. And can not the members aid us in securing new advertisements in their own communities? We have quite a number from Wheeling. Other cities might do as well. We pay a commission to all who can aid in this way. 3.—It is quite possible that many subscriptions could be secured from the druggists of the state were a persistent effort made in this direction. Most pharmacists desire to cultivate the good will of the profession. A dollar is a small matter in consideration of the amount of our patronage, and it is quite certain that the Journal, in the course of the year, contains quite a number of items of interest to the drug trade. Try to put this suggestion into operation at your homes. It may bring forth good fruit. 4.—We have a number of reports from the local societies, but should receive more of these, with news items. Our Journal cannot hope to be a great one, but is made more interesting by these reports and items. We all desire to know what the other societies are doing. 5.—Every society hears papers of excellent character. Send such to the editor. The annual meetings do not give a sufficient supply to fill the columns for a year. Writers in other states seek publication for their papers in Journals having a larger circulation than ours. Hence the necessity for our members giving us the fruit of their labors. Respectfully submitted

Committee on Publication,
S. L. JEPSON, Chairman.

FINANCIAL REPORT.

RECEIPTS.

Jan.	1—J. Davisson, subscription	$ 1.00
"	3—J. N. Murdock Co., ad	50.00
"	3—Parke, Davis & Co., ad	23.73
"	6—Mrs. Lunsberry, subscription	1.00
"	6—Kress & Owen, ad	12.50
"	8—Farwell & Rhines, ad	4.00
"	10—Dr. R. E. Vickers, subscription	1.00
"	15—Grandview Sanitarium, ad	10.00
"	18—Dr. M. W. Whelan, sub	1.00
"	20—Drs. Mossman & Co., sub	3.00
"	20—Dr. G. A. Hundley, sub	1.00
"	20—Dr. W. F. Farley, sub	2.00
"	20—Dr. J. A. Arbuckle, sub	1.00
"	20—G. E. Stechert, sub	1.60
"	20—Dr. B. I. Hudkins, sub	1.00
"	20—Dr. O. O. Eakle, sub	1.00
"	20—Dr. U. G. Cook, sub	1.00
"	23—Dr. H. C. Cantle, sub	1.00
"	23—Dr. J. C. McClellan, ad	10.00
"	23—Second Asylum, ad	3.00
"	24—Dr. J. C. McCullough, sub	1.00
"	24—W. Va. University, ad	5.00
"	25—D. Appleton Co., ad	15.00
"	26—Cincinnati Sanitarium, ad	10.00
"	27—City Hospital, ad	37.50
"	31—Dr. G. R. Hedges, sub	1.00
Feb.	1—Dr. Lester Miller, sub	1.00
"	2—Dr. W. B. McClung, sub	1.00
"	3—Dr. S. B. Johnson, sub	1.00
"	5—Dr. G. S. Hartley, sub	2.00
"	5—Dr. J. C. Irons, sub	1.00
"	5—Dr. W. A. Quimby, ad	10.00
"	7—Dr. T. F. Downing, sub	1.00
"	9—Dr. C. L. Bates, sub	2.00
"	15—Dr. M. W. Dent, sub	1.00
"	17—Dr. L. O. Rose, ad	24.00
Mch.	2—Dr. J. K. Cole, sub	1.00
"	18—Dr. James Turner, sub	1.00
"	26—Treasurer Nicholson, for membership dues	600.00
Apr.	3—Dr. A. P. Butt, ad	16.00
"	4—Dr. K. L. Storm, ad	9.50
"	5—Denver Chemical Co., ad	18.75
"	6—Parke, Davis Co., ad	23.73
"	8—Sawyer Sanatorium, ad	10.00
"	9—J. C. Coleman Co., ad	6.25
"	9—J. S. McClellan, ad	10.00
"	9—Lewis-Clark Agency, ad	11.59
"	12—Dr. W. J. Seaman, sub	1.15
"	15—Kress & Owen, ad	12.50
"	16—Grandview Sanitarium, ad	10.00
"	17—Dios Chemical Co., ad	25.00
"	22—Ohio Valley Drug Co., ad	6.25
"	23—D. Appleton & Co., ad	15.00
"	27—Cincinnati Sanitarium, ad	10.00
May	15—Dr. W. A. Wycoff, sub	1.00

"	24—W. S. Gay, ad	1.00
"	28—H. B. Work, sub	1.00
"	30—R. R. Bernheim, ad	26.00
"	31—Dr. C. B. Pearson, ad	15.00
June	17—Dr. C. S. Ford, sub	1.00
"	22—Dr. K. L. Storm, ad	9.50
"	23—Denver Chemical Co., ad	18.75
"	26—M. J. Breitenbach Co., ad	33.75
"	27—Sawyer Sanitorium, ad	10.00
"	28—Lewis-Clark Agency, ad	11.59
"	29—Parke, Davis Co. ,ad	23.73
July	3—J. Coleman Co., ad	6.25
"	6—Ohio Valley Drug Co., ad	6.25
"	11—Kessler Hospital, ad	32.00
"	15—Grandview Sanitarium, ad	10.00
"	15—Dios Chemical Co., ad	12.25
"	20—Treasurer Nicholson, balance on 1911 dues	8.00
"	24—Cincinnati Sanitarium, ad	10.00
"	25—D. Appleton & Co., ad	15.00
"	29—Dr. E. Martha Chalfant, sub	1.00
Aug.	5—J. A. McGuigen, ad	5.00
"	10—Max Wocher Co., ad	10.00
Sept.	14—Sawyer Sanatorium, ad	10.00
"	16—Dr. K. L. Storm, ad	9.50
"	18—J. Coleman Co., ad	6.25
"	19—Denver Chemical Co., ad	18.75
"	20—Parke, Davis & Co., ad	23.73
"	24—Lewis-Clark Agency, ad	11.59
"	25—Dr. T. R. Evans, sub	1.00
"	27—Ohio Valley Drug Co., ad	6.25
"	30—J. B. Johnson, tuition, N. Y	40.00
Oct.	3—Dr. A. P. Butt, ad	16.00
"	4—M. J. Breitenbach Co., ad	16.88
"	10—Kress & Owen, ad	25.00
"	10—Dios Chemical Co., ad	11.87
"	23—D. Appleton & Co., ad	15.00
"	24—Grandview Sanitarium, ad	10.00
"	24—Dollar Savings & Trust Co., deposit and interest	408.00
"	25—Cincinnati Sanitarium, ad	10.00
Nov.	18—Dr. A. S. Bosworth, Journals	1.00
"	26—Dr. J. N. Alley, sub	2.00
Dec.	10—Dr. J. C. McCullough, sub	2.00
"	12—Dr. B. F. Stillyard, sub	1.00
"	13—Dr. J. S. McClellan, sub	1.00
"	14—Farwell & Rhines, ad	4.00
"	14—W. P. Hubbard, sub	1.00
"	16—Dr. L. K. Storm, ad	9.50
"	17—H. B. Work, sub	1.00
"	18—City Hospital, ad	75.00
"	18—J. Coleman Co., ad	6.25
"	18—Hoffman Hospital, ad	12.00
"	21—Sawyer Sanatorium, ad	10.00
"	21—Denver Chemical Co., ad	18.75
"	23—Lewis-Clark Agency, ad	9.22
"	27—Parke, Davis & Co., ad	23.73
"	28—Breitenbach Co., ad	16.88
"	30—Dr. W. S. Hutchins, ad	5.00
"	31—Dr. C. C. Johnson, sub	1.00
"	31—Ohio Valley Drug Co., ad	6.25
"	31—Dr. A. P. Butt, ad	8.00
"	31—Kress & Owen, ad	10.00
"	31—Dr. S. M. Mason, ad	16.00
"	31—Stechert Co., sub	1.80
"	31—Treasurer Nicholson, balance membership dues	230.00
		$2,412.32

EXPENSES.

Jan.	10—Mailings and stamps	$ 6.91
"	13—Commission on ad	1.60
"	18—Paper and postage stamps	5.40
"	18—News Litho Co., Journals and reprints	85.95
"	20—Chas. Prager, printed envelopes	1.75
Feb.	3—Postage stamps, cards, mailings	4.09
"	15—News Litho. Co., Feb. Journals	73.87
Mch.	26—February mailings and stamps	4.44
"	26—News Litho. Co., March Journals	76.00
"	26—G. Hughes, commission on ads	6.00
Apr.	5—March mailings	2.65
"	5—Dollar Savings & Trust Co., deposit	400.00
"	25—News Litho. Co., April Journals	76.00
May	15—News Litho. Co., May Journals (1,500)	96.00
"	28—Mailings and stamps	5.39
"	30—Am. M. A. Medical Directory	7.00
June	1—Dr. W. L. McLane, part of subscription returned	.50
"	5—May mailings	3.19
"	25—News Litho. Co., June Journals	76.00
July	2—Jarvis Engraving Co., half tones	9.00
"	3—June mailings	2.45
"	9—News Litho. Co., July Journals	72.70
Aug.	5—Mailings and stamps	4.26
"	17—News Litho. Co., Aug. Journals and binding	74.50
Sept.	20—News Litho. Co., Sept. Journals	76.00
"	20—Mailings and stamps	6.29
"	26—Dr. J. B. Johnson, on account error	8.00
Oct.	16—September mailings	2.61
"	16—News Litho. Co., Oct. Journals and reprints	77.50
Nov.	21—October mailings and stamps	4.02
"	23—News Litho. Co., Nov. Journals	74.75
Dec.	11—November mailings	2.40
"	11—Jarvis Engraving Co., half tones	2.50
"	31—December mailings	2.73
"	31—News Litho. Co. and envelopes	77.00
Editor's salary		1,000
Total		$2,429.45

Deficit for the year 1912, $17.13.

NOTE.—Since the book was balanced for 1912 about twenty delinquents have paid their dues for the last year, leaving us a profit of about $2.87. This is the first year in which the Journal has more than paid its own expenses, thus entailing no charge to the Association.

Respectfully submitted,

COMMITTEE ON PUBLICATION,
S. L. JEPSON, *Chairman.*

Examined, found correct and approved by the committee May 22, 1913.

J. E. MCDONALD,
GEO. D. JEFFERS,
H. R. JOHNSON,
Committee of Council.

May 23d.

Meeting of the Board of Councilors called to order by Dr. H. P. Linsz, Chairman.

Present: Drs. Wheeler, Jeffers, Oates, Ed

mundson, McDonald, Rader, Haley, secretary, and Linsz, chairman.

Organization and election of Officers.

Dr. H. P. Linsz of Wheeling, W. Va., was unanimously re-elected chairman for the ensuing year.

Dr. P. A. Haley of Charleston, W. Va., was unanimously re-elected secretary for the ensuing year.

The following Executive Committee on Medical Defense was elected from Council by that body:

Dr. H. P. Linsz, Chairman, Wheeling, W. Va.
Dr. H. R. Johnson, Fairmont, W. Va.
Dr. W. S. Link, Parkersburg, W. Va.

It was moved, seconded and adopted unanimously that the salary of the Editor of the Journal, Dr. S. L. Jepson, be One Thousand dollars ($1,000.00)for the ensuing year.

That the salary of the Secretary, Dr. A. P. Butt, be total, three hundred dollars ($300.00) for the ensuing year, and

That twenty-five dollars be donated Dr. G. D. Lind for services rendered.

It was decided that a member must hold his membership in the component society in the county in which he resides, and therefore an amendment to Sec. 8, Chapter IX.—County Societies—striking out the words, "on request," (third line, Sec. 8, Chap. IX) would be in order. This amendment to take effect January 1, 1914.

ADJOURNED.

The above report was read before the House of Delegates, accepted and adopted unanimously, May 23, 1913.

H. P. Linsz, Pres. P. A. HALEY, Secty,

Note—This is the first time, I believe, that every member of the Board of Councilors was present at any meeting of the State Association.

L.

Report adopted.

Adjourned at 5:42.

F. LeM. HUPP, *President.*
A. P. BUTT, *Secretary.*

Society Proceedings

AMERICAN PROCTOLOGIC SOCIETY.

THE SUBNORMAL COLONIC FUNCTION AS A DIATHESIS.

By J. COLES BRICK, M.D., of Philadelphia, Pa.

The writer was led to investigate the causes of a persistent case of constipation, which had existed since childhood, and which was of an average duration of 7 days, in a young woman of 18 who was in seemingly good health, but whose father having had the same condition and who subsequently developed a case of chronic arthritis deformans. The young woman had been treated by many doctors and by many methods, but all without any more than temporary success.

Resort was finally made to X-Ray examination after giving a bismuth meal. The plates showed that at two points, viz: the cecum and the rectum, the colonic contents remained for three days, and operative measures were decided on. No abnormality was found except an old and thickened appendix, containing 3 concretions, and the tip being adherent to the ovary. As there were some moderate sized hemorrhoids present, these were removed at the same time as the appendix, and the patient made a good recovery. The X-Ray plate showed a very moderate degree of visceroptosis, and a "Storm" belt was ordered. The patient has had a regular bowel movement daily, with the use of a mild laxative which it had been impossible to produce at any previous time.

Examination of the X-Ray plates showed a bilateral calcification of the costal cartilages, which the writer thought was an early symptom of arthritis deformans, and after discussing the various theories of the cause of the disease, accepts the theory that it is a toxic trophoneurosis affecting the cerebro-spinal nerves, with its infectious focus in the gastro-intestinal canal.

The essayist believes that all cases of persistent constipation should be examined by all the means at our command, and finally, not only by the administration of bismuth by the mouth, but injection, with X-Ray examination. Conditions requiring operative interference will frequently be found by this means, and corrected surgically.

Arthritis deformans is a most ancient disease, and evidences of many cases are shown to have existed before the pyramids were built, and that it is not only possible but probable that the infection comes from the intestinal tract, and that if the cause is removed early before the destructive changes have occurred these cases can be cured, and even the advanced cases have their progress arrested.

THE THREE-STEP-OPERATION IN TUMORS OF THE SIGMOID AND COLON.

By JAMES P. TUTTLE, A.M., M.D., of New York City, N. Y.

Dr. Tuttle described the operation as follows: Incision is made in the outer border of the left rectus. Tumor is brought out on the abdominal wall. Peritoneal layers of the meso-sigmoid are incised well above and below the tumor, and stripped back so as to expose the blood-vessels, fat, and glands, which may be in the meso-sigmoid; the latter are stripped toward the intestine until the blood-vessels are bare and the supply to the bowel is easily visible. The sigmoidal artery is tied in two places and cut between and the proximal stump dropped back into the abdominal cavity. The raw surface in the abdomen is covered over by suturing the two peritoneal layers of the meso-sigmoid together over the arterial stump. The two legs of the sigmoid are sewed together laterally to make a spur, after the method of Bodine. The peritoneum is sewed around the bowel; the muscles drawn together; the skin wound closed, attaching it to the bowel. In forty-eight hours the tumor is excised by a V-shaped incision. Two days later, the spur is cut away by pressure-forceps. After this is completed a long rectal bougie is passed up through the bowel beyond the artificial anus, in order to press the spur back and obtain a large caliber at the site

of the resection. When the wound made by the pressure-forceps is healed, the artificial anus is closed by the extra-peritoneal method of the author.

THE X-RAYS AS AN AID IN MAKING DIAGNOSIS OF CONDITIONS IN THE RECTUM AND OTHER PORTIONS OF THE LARGE INTESTINE.

By J. R. PENNINGTON, M.D., of Chicago, Ill.

He stated that while the rectum is easily inspected by various specula, and the sigmoid is less readily accessible by the use of sigmoidoscopes, such as the one with insufflation devised by him, the colon is inaccessible and its exact position difficult to ascertain. Very often it is also difficult to determine and locate pathologic conditions in the large intestines.

Until recently, the means of diagnosis have been limited to those used in other portions of the alimentary canal, viz: Inspection after dilatation of the bowel with air or water, Palpation, Percussion, and Trans-illumination. All of these are open to the objection that they are uncertain.

The writer observed in the latter part of 1899, that by introducing some agent into the large bowel which would cast a shadow, the X-Rays may become useful in making a diagnosis of conditions in the twin cavities. It is only recently, however, that such procedures have become of practical value.

A bismuth meal is useful in diseases of the stomach or duodenum, the agent being suspended in milk, acacia water, thick soup or some similar vehicle.

But for the large bowel, the action of bismuth per os is very slow. One author estimates that it requires from 12 to 15 hours for the bismuth mixture to reach the ileo-cecal valve; about 24 hours to gain the transverse colon, and 36 hours to penetrate to the sigmoid. By the method advocated this is done, so to speak, instantaneously.

Coming now to the technic: The patient's bowels are first cleansed by means of laxatives and injections. He is then placed in the knee-shoulder position, and from 25 to 30 ounces of the mixture used for casting the shadow injected into the large intestine. For this purpose the author uses an ordinary irrigator and a short rectal tip. A long rectal or colonic tube for administering the injection is unnecessary. After the suspension is injected the patient lies on his right side for a few moments so part of the menstruum may pass into the cecum. He is then placed in either dorsal or ventral position on the radiographic table and the picture taken.

CLINICAL SOCIETY OF THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL.

Meeting of April 7th, 1913.

Case of Cerebellar tumor, reported by Dr. R. Foster Kennedy. Operation; recovery.—A young man of 18, violin player. Immediate history was illness after returning from a party. Continued to have occasional vomiting spells with violent headaches, and transient diplopia, and later inability to manipulate the left little finger. Then there developed unsteadiness in left leg. The ataxia became so marked that patient was barely able to walk and lurched to the left. Left arm became ataxic. Transient right facial paralysis, very severe headaches, especially in occiput. Examination: Compression pulse, below 60. Orientation good but rather drowsy, nystagmus to right and left, pupils equal and reacted well to light and accommodation. Diminution of sensibility of right fifth nerve, hearing good, trace of weakness in face. Ataxia more marked in left arm and left leg. Both were atonic. Reflexes on left side were increased over those on right side. Abdominal reflexes absent. Right optic disc markedly atrophied and considerable old choroiditis. Left disc showed slight blurring. It was obviously a case of intra-pontine cerebellar tumor. While the patient was under observation he collapsed, pulse 40, long sighing respirations, papillitis advanced rapidly. Nystagmus became coarse and irregular to left and absent to right side. Therefore tumor was confined to left cerebellar hemisphere. Operation by Dr. Elsberg. Cerebellum was exposed and it immediately protruded by its pressure. The pathological portions were removed. For three weeks the patient had an up and down course with finally complete recovery.

CASE 2. Myasthenia gravis.—This case presented some points difficult of diagnosis. A young girl of 17 always enjoyed good health. Her present complaint began when she started painting notions in water color. The causal relation, however, is not clear. Last October left eyelid becoming heavy, and had difficulty in keeping it open. In one week it was entirely closed. Left now recovered and right had a similar course. Noticed that she began to see double, but the diplopia was not of a constant variety due to the fact that different ocular muscles were affected on different days and therefore the images were variable. On examination there is ptosis of both sides, more marked over the left eye. Compensatory elevation of eyebrows. Complete paralysis for downward movements of the eyes. Movement of right eye laterally is good, of left the eye is almost nil. Upward movement of both eyes present. Right pupil larger than the left. Fundi normal. There are no other symptoms except those of the eye. Three possibilities must be thought of in a diagnosis.

First.—Inferior polioencephalitis of Wernick. The gradual onset of two weeks and the intactness of the other senses is against this.

Second.—Tumor of the Corpora quadrigemini with pressure on the nuclei of the oculomotor nerve. But in six months marked pyramidal and cerebellar signs should have developed.

Third.—Myasthenia gravis. It is not unusual in this condition for the symptoms to begin with paralysis of the extrinsic muscles of the eyeball. Against this is the inequality of the pupils. Myasthenia gravis is a disease of the voluntary muscles of the eyes, and therefore there ought not to be inequality of the pupils. Dr. Pritchard suggested hysteria as a possible diagnosis. But in that case the symptoms would be limited to ptosis.

Reviews

New Aspects of Diabetes. Pathology and Treatment. By Professor Dr. CARL VON NOORDEN, Professor of the First Medical Clinic, Vienna. Lectures Delivered at the New York Postgraduate Medical School, New York. New York, E. B. Treat & Co., 1912. Pp. 160.

These lectures, delivered in October, 1912, by the distinguished Viennese professor at the New York Postgraduate Medical School, have been assembled into a single volume and offered to the profession by the enterprising publishers under the title, "New Aspects of Diabetes." The title is somewhat of a misnomer, as there is not much in its contents that can really be called new. To anyone who has followed the author's teachings on the subject, of late years, there is little that was not already familiar. But the lecturer presents his views in a very clear and concise manner, and whether they are all acceptable or not they are visibly the fruits of much patient and thorough-going research and study. That the disease is caused by changes in the islands of Langerhans, he seems to accept without much question, although there is by no means unanimity of opinion in the matter. In like manner his assertion of an antagonistic action between the pancreas and thyroid is not unquestioned. The several chapters treat of: The Source of Sugar; The Rise in Caloric Production and its Causes; The Control of Sugar Formation and its Disturbances; Therapy of Diabetes; Acetonuria, its Influence on the Treatment of Diabetes Mellitus. The lucid and thorough manner in which these subjects are discussed are worthy of the highest praise, especially the lecture on Therapy. The author's enormous experience has enabled him to try out the various methods and determine the values of each. In this lecture some misapprehensions in regard to the "oat-meal cure," recently advocated by the author, have been removed, and the methods, indications, limitations and results clearly set forth. We know of no other work on this subject that we can so highly commend to the practitioner who has the responsiblity of dealing with this distracting disease.—W.

Muscle Spasm and Degeneration in Intra-Thoracic Inflammations. Their importance as diagnostic aids and their influence in producing the well established physical signs, also a consideration of their part in the causation of changes in the bony thorax, and *Light Touch Palpation.* The possibility and practicability of delimiting normal organs and diagnostically diseased conditions within the chest and abdomen by very light touch. By FRANCIS MARION POTTENGER, A. M., M. D. LL.D., Medical Director of the Pottenger Sanatorium for diseases of the lungs and throat, Monrovia, California. Sixteen illustrations. St. Louis, C. V. Mosby Company, 1912.

In this small volume the author gives the results of his observations on muscle spasm and muscle degeneration resulting from, or attending, disease in underlying viscera. He seems to imply that such localized spasm, or degeneration, or both, are almost invariably present when there is disease in the corresponding underlying organs, and that this condition is present early enough to be of high diagnostic value in revealing such lesions. For instance, spasm with degeneration of certain muscles of the neck, in disease of the apex; of the pectoral muscles, when the disease is lower down, etc. Whether such a condition exists in sufficient degree and sufficiently delimited to be utilized by the general practitioner, is to be doubted, whatever may be presumed from the practised refinements of palpation at the command of the author. This observation is even more pertinent when directed to another claim of the author, that he is able to outline the boundaries of the deep seated organs—heart, liver, spleen, stomach, as well as abdominal tumors, mediastinal tumors, pulmonary infiltrations, etc., by *light touch palpation.* (Italics, the author's.) This light touch palpation he describes as "a touch so light that it scarcely causes an indentation of the superficial tissues." To accomplish all, or even a small part of what he asserts he can do by this procedure is very surprising. And the surprise is not lessened, indeed it seems to have broken upon the author himself, when he remarks, "One thing that surprised me very much was the fact that *light touch palpation* (italics the author's) could be relied upon to give accurate results through bone, as well as soft tissues." After that, surprise is permissible in any one. Should any of our readers find his appetite whetted to the point of desiring to explore more critically the contents of this book, it may be procured from the publishers, according to the marking of our copy, for the sum of two dollars. *W.*

Solidified Carbon-Dioxide. By RALPH BERNSTEIN, M. D., Clinical Instructor in Skin Diseases, Hahnemann Medical College. Philadelphia, Pa., Consulting Dermatologist to the Woman's Southern Homeopathic Hospital, Philadelphia, Pa., Dermatologist to West Philadelphia General Homeopathic Hospital and Dispensary, etc. Published by Frank S. Betz Co., Hammond, Ind.

This little book of ninety pages gives a short description of the properties of Carbon-Dioxide, its therapeutics and mode of application. It gives the author's experience with the agent, the many pleasing results being illustrated by photographs.

While the book contains some practical points, we are not ready to agree with the author that this treatment will eventually take the place of the X-Ray in the treatment of cutaneous, malignant and benign neoplasm.

Handbook of Diseases of the Rectum. By LOUIS J. HIRSHMANN, M.D., President of the American Proctologic Society; Lecturer on rectal surgery and clinical professor of Proctology, Detroit College of Medicine. Revised and rewritten. Second edition. 332 pages. Royal octavo. 172 illustrations, including four colored plates. C. V. Mosby Co., St. Louis. $4.00.

On some 300 pages we find here what the general practitioner needs to know about anorectal diseases. The book is not intended for the specialist, therefore long discussions and operations of magnitude are omitted. Instead there are very valuable and concise chapters on the diagnosis of rectal diseases, and especially one chapter on the use of anesthesia, with a full and clear description of the technique and also the indications and contraindications for its use. The last chapter deals with the clinical examination of the feces, giving a short description of the microscopical and chemical methods of examination, together with an enumeration of the most important abnormalities to be found in the feces in various rectal and intestinal diseases. The book is well written, well illustrated and well worth reading. —SCHWINN.

SAVING THE BACKWARD SCHOOL CHILD

G. M. Gould, Atlantic City, N. J. (*Journal A. M. A.*, April 5), calls attention to eye defects in backward school children and especially notices some recent work of Dr. W. M. Richards of New York City done under control of the school authorities. Thirty-eight children were examined and treated for refraction errors, and the testimony of the principals and teachers is epitomized as regards the results on the school progress and moral character of the children. They seemed to be almost invariably very good, and where there was continuance of symptoms or no improvement, long standing of the disease producing a great deal of amblyopia or the bad home environment seem to account for the condition. Dr. Richards estimates that there are about 78,000 children with defective vision in the New York schools, and that this could be remedied in 80 per cent. if the principles and practice of refraction were properly taught and learned by the general practitioner in the medical school. He believes that in New York there is a divided responsibility in the government of the schools; that a cycloplegic is not used in determining the refraction errors in the 84 per cent of the hyperopic defectives. and that the small errors are ignored, though they have great influence in determining effort, proficiency and conduct in the school children. Even if this were done, it would probably be impossible to get the requisite spectacles made and paid for. Lastly, diagnosis and treatment of defects and diseases of other organs than the eyes is not at present feasible. The case would seem rather hopeless at the present time.

IODINE IN WHOOPING COUGH.

After ten years' use of iodine in the treatment of whooping cough Cavazzani says (*La Pediatria*, February, 1912) that it diminishes the attacks, shortens the disease and makes it generally milder. He has had no severe case such as he used to see before he began the iodine treatment. He dissolves 1 part of metallic iodine in 15 parts each of KI and water. Of this 4 to 6 drops a day in sweetened milk are given to a child of one year, increasing up to 10 to 15 drops in children over five years. No intolerance has been observed and it does not matter in what stage of the disease it has been given. He sometimes gives quinine or camphor monobromide in addition. The author also speaks highly of the use of iodine in typhoid, but it is contraindicated in acute infections such as pneumonia, acute nephritis, measles, scarlatina, acute rheumatism and influenza.—*Critic and Guide.*

ALCOHOL IN INFECTIOUS DISEASES.

Ewald of Berlin spoke on the subject of alcohol and infectious diseases. The opinion has now been reached that alcohol no longer plays the role in therapeutics, especially of infectious diseases, that was formerly ascribed to it. The injury caused by the alcohol to the infection does not compensate for the harm resulting from the unfavorable influences on the natural protective power of the organism, the blood-pressure and the respiration. The stimulating action of alcohol on the heart is of only short duration and is followed by a marked decline. It was believed formerly that treatment by alcohol was especially indicated in the infectious tropical diseases, in syphilis and other venereal diseases, in pneumonia, rheumatism, scarlet fever, measles and diphtheria. But at present the opinion prevails that treatment with alcohol is injurious rather than advantageous in many cases. Even in pulmonary tuberculosis the injurious influence of alcohol is established. Ewald gives alcohol only in severe heart-failure and in certain forms of diabetes, particularly in incurable cases, in order to divert the mind of the patient from dwelling on the hopelessness of his condition.—*Berlin Letter in J. A. M. A.*

THE TREATMENT OF HERNIA IN INFANTS.

Savariaud recommends Lorthiore's operation for hernia in infants, which he has practiced in 100 cases, and with excellent results in each, in infants over six months.

For hernias of ordinary size an incision of 2 cm. is made. and after separating the subcutaneous cellular tissue and placing the testicle, hernia and spermatic cord to one side, the tissues overlying the cord are cut through and the sac is exposed and isolated. It may not be necessary to ligate the sac before removing it; the resection should be done as high as possible. The skin incision is closed with small clamps, which are left in place for twenty-four hours or longer. Primary union takes place in most cases. No dressings are needed, as the anterior wall of the inguinal canal remains intact.

The remote effects of the cure of the hernia are striking; the malnutrition and digestive disturbances so often accompanying this condition disappear very rapidly.—*La Tribune Medicale.*

PREGNANCY AFTER LIGATION OF TUBES.

Dr. Sterner, in *St. Paul Journal* for May, tells of a woman whom he had twice aborted for pernicious vomiting. "Upon the advice of consultants I did a curettment and ligation of tubes. The method I employed in ligating tubes was to tie off a loop of the tube with catgut and then to cut away the loop; a method I have frequently employed when I desired to do a quick operation. When this is done about four centimeters of the tube is cut away and the two cut ends are held together side to side by the catgut ligature.

"Again the patient made a good recovery and remained in good health for a period of sixteen months, when she again presented herself with amenorrhea and pernicious vomiting with great cachexia. After observing her for a week and vainly attempting to relieve her symptoms medicinally I again did a curettment and found a four or five weeks' pregnancy. Upon doing laparotomy I found that the two cut ends of the left tube had united and that the tube was open and normal except for being short and having a constriction at the site of the union of the two cut ends. On the right side the cut ends of the tube were closed and separated for a distance of one inch. It may be suggested that the left tube was not cut or that perhaps the round ligament was cut by mistake, but such was not the case, because the scar and constricted portion of the tube were very evident.

"The instructive feature of this case is that ligation of tubes is not sure to prevent pregnancy, but that a complete extirpation of the tube with covering of the cut end at the cornua with peritoneum is the safer operation."

CONTRADICTORY FINDINGS IN THE WASSERMANN TEST.

Wolbarst in the *New York Medical Journal*, February 22, 1913, sums up his conclusions as follows: The Wassermann reaction is dependent for its results on the skill and knowledge of the serologist.

The results of the test depend in great measure on the absolutely perfect standardization of the reagents used; these are subject to variations in the hands of different serologists.

As a result of these differences, diversity in the findings are not infrequent, and insufficient attention has hitherto been given to this particular feature of the reaction.

It is a gross error to accept the findings of one serologist as conclusive, particularly if his result is positive and the diagnosis dependent on his report; his work should be checked up by one or more equally competent workers. If two or more competent serologists report on a given serum, the majority opinion may be accepted as fairly conclusive; frequent re-examinations are always of advantage to the patient.

Of thirty-seven cases thus studied for discrepancies agreement of findings took place in twenty-six cases (seventy per cent); absolute contradiction of findings took place in five cases (fourteen per cent); slight disagreements took place in six cases (sixteen per cent).

All mention of results of the Wassermann test, in the literature or elsewhere, should be accompanied by the name of the serologist who made the test, in order that the measure of accuracy and skill employed may be estimated.

The serologist should be selected with the same care and caution as is exercised in the selection of a consultant or expert in any other branch of medical science.

VAGINAL INCISION FOR DIAGNOSIS PURPOSES.

Dr. Hunter Robb thus concludes a paper on this subject:

1. If there should still be doubt as to the necessity of an abdominal operation in a given case, a further examination should be made through an incision in the posterior vaginal fornix.

2. By carrying out such an examination many an unnecessary abdominal operation will be avoided, whereas oftentimes a marked inflammatory condition will be made out that would otherwise escape our notice, and the necessary operation thus indicated will save the patient a great deal of suffering.

3. Another distinct advantage is that when adhesions are found after an opening has been made into the cul-de-sac it is often possible to separate the adherent structures and save them, and thus do away with the necessity of an abdominal operation altogether.—*Cleveland Medical Journal*, April.

NON-OPERATIVE TREATMENT OF AN UNCOMPLICATED CASE OF PUERPERAL INFECTION.

1. The patient should have complete rest, physical and mental.

2. A well-ventilated room should be selected in which there is plenty of sunshine.

3. Drainage should be favored by the Fowler position.

4. The hyperpyrexia should be controlled by cold sponging and an ice-bag on the head. In the case of a local pelvic inflammation an ice-bag should be applied over the affected area. Elimination is an important factor and should be favored by both the bowels and the kidneys. The drop method of introducing normal saline solution into the rectum is desirable, as it saves the stomach, allays thirst and favors elimination by the kidneys.

5. As it requires five days to make an autogenous vaccine, first a serum or antitoxin should be administered to be followed by a reliable stock vaccine if the blood-count is favorable and there is an indication that the patient lacks sufficient reaction to combat the infection.

6. The stomach should be carefully guarded. All useless medication, whisky, quinin, etc., should be avoided and the stomach practically reserved for nourishment only. Feed the patient carefully, at regular intervals. Discontinue breast-nursing unless the mental effect is too depressing in the mother's weakened condition.—R. T. GILLMORE in *J. A. M. A.*

The West Virginia Medical Journal

Published Monthly
by
The W. Va. State Medical Association

Under the Direction
of the
Committee on Publication.

COMMITTEE ON PUBLICATION:
S. L. JEPSON, Chairman.
L. D. WILSON. G. D. LIND. C. A. WINGERTER.

Entered as second-class matter August 10, 1906, at the Post Office at Wheeling, W. Va.

Vol. 8—No. 2. WHEELING, W. VA., AUGUST, 1913 Subscription Price $1.00 per Year Single Copies 15 Cents.

Original Articles

ORATION IN SURGERY.

CARCINOMA OF THE STOMACH FROM A SURGICAL STAND-POINT.

By Richard E. Venning, M.D., Charles Town, W. Va.

(Read at Annual Meeting of State Medical Ass'n, May 21, 1913).

I hope I am not too optimistic in expressing the opinion, that, in the near future, a specific treatment will be found for cancer; but until that day comes , complete extirpation of the growth, or the precancerous lesion, is the only ray of hope offered these unfortunate sufferers.

Deaver is the authority for the statement that patients suffering with gastric carcinoma have under medical treatment, an expectation of life of about twelve months from the beginning of the disease, and not only is this the duration of life, but, it must not be forgotten, that at the end of twelve months the patients under medical treatment will *all* be dead.

By the time a diagnosis is made of cancer of the stomach and intestines (comprising nearly one-half of all cancers) nearly two-thirds are inoperable. In the Mayo Clinic in two-thirds of the cases exploratory laparotomy, or a paliative operation was done.

Bland Sutton said some years ago: "As long as we are ignorant of the cause of cancer, so long must the only successful treatment be the extirpation of the growth."

W. J. Mayo states that in all the history of this disease there is no authentic case in which cancer of the stomach has been cured by medical means.

Cancer of the stomach is the most frequent and the most hopeless form of cancer in the human body. Early operation affords the victim the only chance of a cure. Physicians as well as patients must understand that operation for cancer of the stomach must be the *first* consideration and not the *last*. This can be done when a diagnosis is made early. It is to the consideration of this we must apply ourselves.

No less an authority than Boas has expressed the opinion that "early diagnosis of carcinoma of the stomach is so difficult as to be usually impossible, that is to say, an accurate, assured diagnosis, based on scientific reasons and not a mere happy guess that the affection is malignant in nature." Otto states that, of one hundred and ninety-six cases of cancer of the stomach and intestines, one hundred and twenty-one died within six months of the first symptom.

Clinicians are so fascinated by this subject of early diagnosis, that in nearly every medical journal one finds some new method advanced.

Boas, answering the question, What is meant by an early diagnosis? says "A determinable tumor on palpation does not mean an early diagnosis, because many cases of advanced cancer give negative signs on palpation. Nor does it mean that there is no metastasis because the autopsy *in vivo* often shows a general involvement soon after the first symptoms appear. He says that a sharp distinction must be made

between diagnosis, differential diagnosis and early diagnosis, and that an inspection of the stomach is the only thing to be regarded as of any certain value in the early diagnosis."

To fulfil the condition of an early test:

1st. The operative mortality must be decidedly reduced.

2nd. There must be an increase in the number of radical operations.

3rd. The duration of life after operation must be lengthened.

All of the tests so far reported are lamentably deficient in this respect, as they only offer diagnostic aid, and have really not been of any value in diagnosticating cancer in its incipient stage.

He expresses himself emphatically "for the benefit of those who wilfully or unwittingly misconstrue his reference, that he has no desire to proclaim *late diagnosis* as a goal for which to strive."

In the United States, the death rate from cancer per hundred thousand inhabitants has increased from 64 in 1900 to 69 in 1905, and 76 in 1910. The same average increase has occurred in Europe.

In Massachussetts the cancer death rate doubled between 1850 and 1875, and has nearly doubled again since then.

Bryant shows an increased death rate from cancer per thousand of 9 per cent in 1850 to 33 3-5 per cent in 1890, and this increase has probably continued in the same ratio since that time.

The stomach is more frequently the seat of cancer than any other organ in the body. Welch found cancer of the stomach in an analysis of 30,000 cases to be 21-24 per cent Cancer of the stomach comprises 30 to 40 per cent of all cancers of the body. The United States Census Report of 1900 shows that of fatal cancers, 31 per cent were of the stomach.

About one-fourth as many cases occur in women as in men, and, according to Welch, one per cent of all deaths after the age of twenty years are due to cancer of the stomach. Welch's report of 2,975 cases of cancer of the stomach shows that the greatest number of cases occur in persons between 60 and 70 years of age.

The cause of cancer is a dark mystery, still awaiting solution. There is no proof that heredity plays any role in the development of this disease. Nothing definite is known about it, and the little we do know is of no practical value to those afflicted with the disease.

I will merely refer to the parasitic theory as held by Adams, Gaylord, Park, Coley and others, to say that as yet we have no conclusive evidence that cancer is due to a parasite or bacillus.

Traumatism and irritation, I believe, play a most important part here, as well as elsewhere in the body, by lowing the resistance of the tissues and inducing hyperplasia and inflammation.

Keen has stated that every case of carcinoma of the skin began in a pre-existing lesion. There is no good reason why this should not be true of the gastro-intestinal tract as well. More than half of the gastric cancers have their origin in, or are preceded by, chronic gastric ulcer. This condition is therefore the commonest pre-existing lesion.

Brinton concludes that as five per cent of persons dying from all causes evince symptoms of gastric ulcer, it can readily be understood how carcinoma can develop on an ulcer with no apparent previous symptom.

Stroemyer has recently stated that he believes mechanical irritation is in a large measure responsible for the formation and localization of gastric ulcer. The alimentary bolus often contains rough and indigestable substances, which exert a more marked friction upon the lesser curvature and gastric orifices. That many so-called indurated ulcers are really cancers, whose ulceration has been stamped with characterization of peptic ulcer.

Though statistics vary a good deal as to the most frequent site of gastric ulcer, at least sixty-five per cent occur along the posterior wall and lesser curvature near the pylorus W. J. Mayo thinks that ninety per cent are found along the lesser curvature. In about six per cent of all cases the ulcers are multiple.

Munier has been impressed with the similarity of the symptoms caused by minute ulcerations at or near the pylorus, and fisure of the anus. The pains, in his opinion, are the result of morbid contractions of the sphincter, and this may be the primal factor in the development of the ulcerations.

Fenwick further concludes that, in about four-fifths of all cases, carcinoma com-

mences in the comparatively small strip of tissue extending from one orifice to the other, along the upper margin of the stomach, and that its percentage rapidly diminishes the further we proceed from the pyloric valve. In 1850 cases, fifty-eight per cent were found at the pylorus and nine and one-eighth per cent at the cardia.

Modern progressive surgery has knocked the props from under indigestion, dyspepsia and stomach trouble, and almost all persistently severe cases have been proven to be pathological lesions of the gastro-intestinal tract, liver, or pancreas. Fewer cases are diagnosed as dyspepsia and chronic gastritis, and more of peptic and duodenal ulcer.

Patients suffering from so-called dyspepsia and chronic gastritis with hyperchlorhydria, who are not soon relieved by diet and alkaline treatment, will usually prove to be peptic ulcer. These patients should be kept under constant observation and should not return to work, dosing themselves with peppermint and soda; while the ulcer becomes harder and more indurated, possibly malignant, the chances increase for a cure slipping away with each day of delay.

Of the autopsies held at the Katherina Hospital, Moscow, perforated gastric ulcer was found to be the cause of one per cent of the deaths.

Paus states that in 3,000 necropsies, ulcer of the stomach was found in 2.77 per cent, and that the history of all the cases showed dyspeptic symptoms of from one to ten years duration.

Many of our best known internists seldom, and some of them never, see an abdominal operation. I would strongly advise the general practitioner to follow his cases of chronic gastric and duodenal ulcer and cancer to the operating room, and there study the "living pathology" of these diseases.

Be suspicious of every stomach, when indigestion is complained of, and is resistant to medical and dietetic treatment. If there is hypo-acidity or no acidity, together with the least irregularity in the outline of the stomach, the case is one for the surgeon. It is better for the patient to be credited with an ulcer or cancer when none exists than to have one overlooked.

Metastasis commonly occurs in the adjacent lymph glands; later the liver is more frequently affected, to the extent of thirty per cent.

Mikulicz has demonstrated that the blood and lymphatic vessels extend along the lesser curvature and within the walls of the stomach, and that it is necessary to remove the entire curvature in all cases of cancer of the pylorus.

Carcinomatous emboli do not necessarily involve the glands nearest to the focus of the infection, but may primarily affect the glands at a distance.

Dobson and Jamison conclude that except as a mere matter of chance, no operation for gastric carcinoma can be a radical one when once malignant emboli have commenced to attack the lymphatic glands. The only reason for removing as many of the diseased glands as possible is the hope that once the primary growth and the majority of the glands have been removed, the remaining glands may be able to deal with, and perhaps destroy the malignant elements they contain. Of this process, however, we know little or nothing.

Welch's analysis of 1574 cases showed lymphatic glands affected in 551 cases, liver, 475 cases; peritoneum, omentum and intestinal, 557; pancreas, 122; pleura and lung, 98; spleen, 26; brain and meninges, 6; other parts, 92.

The liver is not usually invaded in carcinoma with pyloric stenosis.

A small proportion of patients with gastric cancer will give no pre-cancerous history, but I believe a more careful inquiry into the history of these cases will show more and more danger signals, *red lights*, which have been passed unnoticed by the patient or physician.

In considering chronic ulcer as an etiological factor in cancer of the stomach, it must be remembered that this does not always give a long or satisfactory history. Ulcers may remain for years; and finally cancer become implanted on them and for the first time symptoms of the long latent condition manifest themselves.

Progressive loss of strength and weight may be the only symptoms noticeable. One must not be misled by the apparently short history of these cases, but remember that for years the soil may have been in the course of preparation and the ulcer ready to blossom out into the fully developed

cancer, death coming on in a few weeks or months.

Goodman calls attention to secondary involvement of the umbilicus as an evidence of gastric carcinoma mentioned by Boas and says, this has received consideration from Oettinger and Marie, who state that although it is seen in cancer of the ovaries, of the uterus, liver, gall-bladder. intestines, and rectum, it is more frequently observed in cancer of the stomach. They claim that, in doubtful cases, umbilical cancer is often the first diagnostic sign ,and is far more important than the enlargement of the supraclavicular glands. It is easy of detection if one remembers its occurrence, but can easily be overlooked if one is not familiar with its existence. It is not painful, and the patients attention is rarely ever directed to it. When it can be seen on inspection, its small volume, and its hiding place in the umbilical depression, tend to cause it to escape the eyes of those who are not looking for its presence.

In the beginning the umbilical involvement appears as a simple violet-colored pimple. which is at first very small, but which eventually surrounds the entire umbilicus. Often it is a simple wrinkling or a partial contraction associated with some induration, and again it is felt as a firm area continuous with the abdominal wall. In the later stages the umbilicus appears as a slight projection surrounded by a furrow, the skin somewhat violaceous and adherent, but the tumor is painless. The latter seems to be connected with the stomach by a fine cylindrical shaped stem. In other cases the umbilical involvement is in the form of cancerous fistula.

Perhaps those who accept his suggestions to study late symptoms, may see in this umbilical involvement a not unimportant sign of the inoperable nature of the case.

Graham of the Mayo's staff clinically defines three types of gastric cancer.

First: Those with a long series of repeated attacks which are clearly those of ulcer, the so-called pre-conscious state. This is the typical chronic ulcer period.

Second: Those in which the initial symptoms were more or less severe, but where months or years of quiet intervene before the malignant symptoms appear.

Third: Those in which the acute symptoms suddenly attack the patient in the midst of apparent health.

In the first and second types, the preconscious history is that of ulcer; that the percursor in the third type is *very often ulcer*, is being determined through surgery and skillful pathological technique. In the latter ground it is more than probable that the early history has been overlooked, or, because of the present increased distress, the patient thinks that the earlier disturbance is not worth considering.

The pain of cancer is not so sharp as in ulcer, and is not relieved by food, change of posture or pressure; sharp and of a tearing character, when neighboring organs are involved and adhesions have formed. Vomiting is usually absent when the growth invades the walls of the stomach; more frequent when at or near the pylorus. The more the pylorus is obstructed, the more marked will be the vomiting, pain, hemorrhage and cachexia.

In cancer, the vomiting is often excited by liquid food, there is a distinct distaste for meats, and the discomfort from gas and bloating increases and finally the patient turns from food with disgust. The vomiting will often show the presence of blood, even in the early stages.

The stools should always be examined for the presence of occult blood. Boas found this test positive in 107 out of 124 cases of gastric cancer. Tests for occult blood will be positive, as a rule, at all stages of the disease.

By occult blood is meant blood so small in amount or changed in character, as not to be noted by the naked eye. The general practitioner should always search for occult blood in the stools in every case of stomach or intestinal disorder which drags on at all; as well as in every case of anaemia the cause of which is not clearly demonstrable.

It must be remembered that the introduction of the stomach tube is liable to cause slight erosions which may cause sufficient bleeding to give deceptive findings when the stool is examined for blood. Van Leessum thinks this is especially liable to occur with exfoliating gastritis and catarrhal achylia. It is well to have the patient abstain from meats and fish for forty-eight hours before the test is made. Finney protests against the prevailing tendency to

jump to quick and easy conclusions drawn from certain insufficient clinical data. He endeavors to show that the simple presence of blood in the stool of a patient suffering from an otherwise obscure affection is by no means an evidence of pathgonomonic importance. The conditions are so diverse as not to warrant any snap diagnosis, but on the contrary, to indicate the most careful, thorough and painstaking study and investigation.

We should always bear in mind that the presence of blood in the stools is simply evidence of blood and in no way indicates the source of the blood.

Blood is usually intermittently present in the feces in ulcer. In cancer though microscopically absent it is more uniformly found by careful clinical tests. Laboratory examinations, while very important, are only significant when considered in connection with the history and clinical picture of the case. In cancer hydrochloric acid is usually diminished in amount; but may be increased, if the cancer is grafted upon or accompanied by an ulcer. This significant fact must be remembered; that whereas, in the normal stomach the amount of hydrochloric acid increases after a meal, in cancer repeated tests show a steady and marked diminution. Of more significance is the presence of lactic acid and the Oppler-Boas bacilli.

Gastric mobility, as observed by the X-Ray, is of greater value than gastric analysis. Modified peristalsis may be present before any other signs permit differentiation of the lesion.

Every general practitioner should, after a few weeks observation of the patient, under a restricted diet, and carefully considering the gross characteristics of the stomach contents obtained by the passage of the stomach tube, be able to estimate the minimum symptoms sufficient to justify a consultation or the sending of the patient to a hospital, where the necessary chemical and microscopical examinations can be made.

A patient whose general examination and clinical history make one suspicious of gastric cancer, and finding remnants of food in the stomach ten or twelve hours after ingestion, at once the reasonable doubt becomes almost a certainty of cancer of the pylorus, or at least stenosis.

Tumor may be the first clinical symptom to attract attention, though this is present later in the disease, as a rule. When present, added to other confirmatory symptoms, the diagnosis becomes certain. A most careful, thorough and systematic search should be made; the stomach should be most carefully palpated both distended and flat. With symptoms so vague and indefinite, and almost misleading, what a task is laid upon the internist and surgeon, and how imperative is an early diagnosis if any radical curative procedure is to be adopted.

The greatest obstacle in the proper handling of these cases is their latency, and if we expect to accomplish much in our fight against cancer, we must invade the field of chronic ulcer and cure the cancer before it has developed.

We must not forget that one-half the cases of gastric cancer are preceded by ulcer or are grafted on an old ulcer scar, and that every case of chronic ulcer or cancer should be a surgical one. Often to wait for a positive diagnosis of gastric cancer dooms the patient to death within a twelve-month.

Deaver asserts that every case diagnosed as cancer of the stomach before operation is a disgrace to the attending physician, provided he has had the patient under treatment for more than a few weeks. In that space of time it is at present usually impossible to render absolute the diagnosis of gastric carcinoma while still in the operable stage; but it is entirely possible, and we contend with all earnestness that it should be done, to reach within that time the conclusion that an anatomical basis for the symptoms exists, and that this can be removed only by operative means.

Mayo says, when brought face to face with the fact that cancer exists in the stomach, the apathy of the medical profession is only equalled by that of the patient. Merely to diagnose cancer of the stomach is enough to satisfy the patient, the family and the friends, and it is received with oriental-like resignation as being the fate from which there is no escape.

Gastric cancer may be accompanied by complications so pronounced as to overshadow the true diagnosis. Until the last few years the upper abdomen has been a region which lay beyond the scope of our analysis, a region on the border line of mys-

tery. Far better is it for a patient to be credited with an ulcer or a cancer when none exists than to have one overlooked.

Exploratory laparotomy should be decided upon in all cases of stomach trouble when careful medical treatment has failed to give relief and the surgeon and internist, after careful consideration and conscientious study, feel that there is something organically wrong.

As surgery offers the only cure for cancer of the stomach, the surgeon's duty clearly points to advising exploratory laparotomy instead of waiting for a positive pathological diagnosis. . .

Greater stress should be laid on earlier diagnosis in malignant conditions and closer attention should be paid to the earliest symptoms. The general practitioner as well as the general public, must be educated to recognize the necessity of early surgical intervention in all malignant conditions.

"Conservation in its truest sense means the restoration or preservation of health and function, or the saving of life. It does not mean the refusal to operate when an operation is indicated, nor does it mean work partly done, nor leaving in the place of non-functionating, or slightly diseased organs or parts of organs, solely for the sake of leaving them. The surgeon's knife in its most radical work is often the greatest of conservative agents."—(*Turck.*)

Deaver says that he who deliberates is lost, but under these circumstances it may be the unhappy lot of the patient to be numbered among the lost. The resources of surgery are rarely successful when practiced on the dying, nor are they so uniformly successful when pathology is advanced as when it is in its incipiency. At least nine-tenths of the mortality of operations so-called is in reality the mortality of delay.

The every day doctor in general practice should be a man of wide knowledge, ripe wisdom and of great skill, if he would invade and conquer the great field of scientific medicine. He should be able to recognize and understand the necessity for X-Ray examinations, blood-counts, microscopical and chemical examinations.

It is impossible that anyone can be expert in all these various departments, but his knowledge should be so broad as to enable him to recognize the necessity for these various procedures and call to his aid skillful men, qualified to render the efficient service, that his duty to the patient, as well as to medical science, demands. The practice of medicine and surgery has not reached its present height by accident or chance, but by hard work, in the school of experience, at the bedside, in the operating room, the deadhouse and the laboratory.

We must not be content with present attainments, but hand in hand let the internist, surgeon and pathologist work together, and greater and greater things will be accomplished in the future than the human mind has yet been able to compass ,or even the wisest of us to anticipate.

UROLOGICAL DIAGNOSES.

By E. O. Smith, M.D.

Prof. Genito-Urinary Surgery ,Medical Dept., University of Cincinnati.

(*Read at Annual Meeting of W. Va. State Med. Ass'n., May* 23, 1913.)

Accuracy of diagnosis and development of technique as applied to pathological conditions in the genito-urinary system have made more advances in recent years than in any other field of medicine or surgery.

The microscope, the urethroscope, the cystoscope and the X-Ray have made this possible. With these aids used singly and collectively almost all of the obscure conditions in this part of the body can be accurately diagnosed.

As a result of these advances and the skill required to properly apply them there has been developed a new specialist, the genito- urinary surgeon. His field is as much of a distinct specialty as is the eye, ear, nose and throat, when efficiency for the patient is considered. About 4% of all conditions requiring surgical treatment are found in the urinary tract when cases are thoroughly and carefully studied. In every case of doubt as to the character and location of an abdominal lesion a urological examination with cystoscope and X-Ray should be made. Illustrations of how one is indispensable to the other will follow later in this paper.

It is of great importance to the patient and satisfaction to the surgeon to be able to

definitely *locate the* trouble and in large majority of the cases determine its *nature. No* surgical operation on the urinary tract should be undertaken until a careful urological examination has been made.

The surgeon who ignores this does not live up to his fullest obligation to his patients.

Before beginning the examination a careful family and pathological history should be obtained, as often many facts that bear on the trouble under consideration are revealed. Then a general physical examination should be made. A man was referred to me for probable operation on the prostate whose trouble was a cardiac asthma with secondary renal complications.

Pain, disturbances of urination, hematuria, pyuria and tumor mass include practically all of the symptoms that bring patients to the physician for urological troubles. Any one or all of these may be present in the same patient at the same time. The symptom or symptoms may be apparently insignificant, yet pathological lesion back of it may be a serious one.

Painful and frequent urination may be due to infections of the urethra, usually gonorrhea, stricture, vesical calculus, or tumor, prostatic and seminal vesicle disturbances, and renal tuberculosis or neoplasm.

It is a very common experience to have a man past twenty-five years of age referred to me for some increased frequency of urination attended or not with slight pain. A large number of these patients are troubled with a slight strictural contraction of the deep urethra. This is determined by examining the urethra with olive tipped bougies or through the urethroscope. When the olive body passes the stricture it can be felt by the examiner and when an attempt to withdraw it is made it will hang or hesitate as it comes in contact with the constriction. The size and location of the stricture can both be determined in this way.

In cases where the constriction is far advanced the symptoms are more pronounced and urination is at all times a slow, painful and unsatisfactory procedure, which may suddenly become impossible and the patient suffers acute retention. This often follows exposure and alcoholic excesses. The bladder becomes greatly distended and very painful. This condition may be attended with a slight overflow, retention with incontinence. Some time ago I was called to see such a case where a man 43 years of age under the care of a physician was continuously dribbling urine. I asked if the bladder was distended and was told that this could not be as the man was passing urine all the time. Examination by palpation and percussion revealed an enormously distended bladder which was catherized and thirty-six ounces of urine were slowly withdrawn. Owing to the long continued over distension and subsequently inability of this bladder to contract it was necessary to catheterize this patient for several days. No patient with acute retention of urine should be given a general anesthetic as his physical exertion in the stage of anestheic excitement may cause vesical rupture.

If the patient is beyond 45 years of age the first cause of the trouble to be thought of is prostatic enlargement. Especially if he be more than 55 years of age. Here again one must not take too much for granted. A physician sent his father, 65 years of age, to me with a diagnosis of prostatic trouble. He had frequent urination, a great deal of straining. Prostatic obstruction was the most likely cause, yet examination showed that his troubles were due to a stricture of the urethra so tight that a single filiform bougie was all that would pass.

This was due to a gonorrheal urethritis contracted more than twenty years previous. This man's prostate was not abnormal and dilatation of the stricture relieved his symptoms. I may suggest that about 97% of urethral strictures due to an old specific urethritis yield much more satisfactorily to gradual dilatation than to any other method of treatment. Cutting of stricture is rarely necessary.

It must be borne in mind that an abscess of the prostate may develop as early as the fourth week of an acute urethritis or several years later. The patient complains of a painful fulness in the perineum and rectum with some increased frequency of urination, or as I have seen complete retention. Attending this are usual symptoms of infection, malaise, headache, loss of appetite and fever. The abscess formation can be felt by introducing the index finger into the rectum. The examining finger meets the tumor mass just above the internal

sphincter. There is increased heat noticed and examination is usually very painful. Slight pressure of pus from the urethra, as this is the line of least resistance. Immediately after such an emptying of the abscess the patient feels relief.

The direct communication between the seminal vesicles and the posterior urethra through the ejaculatory ducts, favors frequent infection of these structures. I am convinced after a careful study of this subject both on post-mortem specimens and in the living that the seminal vesicles are very often that focus of much trouble which has been improperly diagnosed and hence improperly treated. Like prostatic abscess the symptoms due to an infection of the vesicles may appear within a few weeks or many years after the urethral infection. In some cases there has been no urethritis. The symptoms of acute vesiculitis with pus formation are very similar to prostatic abscess. The symptoms of chronic seminal vesiculitis have been arranged in four groups by Eugene Fuller.

First—those on the part of the urinary system; 2nd.—the sexual group; 3d—nervous and mental; 4th.—arthritic or joint cases.

The urinary disturbances are increasd frequency with tenesmus, retention, and recurrent attacks of discharge from the urethra. Involvement of the seminal vesicles accounts for many of the obstinate cases of chronic and recurrent urethritis without apparent cause.

A short time ago a patient was referred to me after having his posterior urethra treated for 1½ years through a posterior urethroscope with no improvement. A few gentle massages of his vesicles cleared up all of his symptoms.

The sexual symptoms vary from abnormally increased sexual desire with priapism to a complete impotence. In the early period of the vesiculitis the patient may have an unusual desire for sexual gratification, frequent nocturnal emissions, and the seminal discharge may contain blood and pus. Later in the disease there is pain at the end of the coitus so marked in some cases that the patient desists from sexual intercourse. Still later the sexual desire becomes less and finally in some cases there is a positive impotence.

There is evidently a toxic substance which is found in the vesicles that is absorbed and distributed to remote parts of the body, which accounts for the neurasthenic and arthritic groups. I do not want you to get the impression that I think all cases of neurasthenia and arthritis are due to seminal vesiculitis, but I do insist that a sufficient number of the cases are caused by a vesicle toxin that it is well to bear this in mind.

I believe that every patient suffering from those nervous and mental symptoms included in the term neurasthenia has some definite cause for his trouble if it could be located. Vesiculitis will account for some of those otherwise unexplained cases. The patient may be irritable, suffer insomnia, loss of oppetite, be unable to satisfactorily perform his daily work ,and be compelled to "give up." These symptoms plus a recurrent urethritis was the history of a young man upon whom I did a vesicle drainage operation last October, after he had spent three months in our city hospital receiving the usual massage and irrigation treatment. All of his symptoms disappeared within a few weeks and he gained fifteen pounds in weight during the first month after the operation.

While the joint cases usually give a history covering a long period of time they may develop within a few weeks after the beginning of the urethral infection. Many of these patients have been treated for months for so-called rheumatism without results. If when one is examining such a patient he will take the trouble to feel the seminal vesicles, the location of the cause of the arthritis can often be recognized. The vesicles may be distended and boggy, or small and hard. Frequently there is a great deal of perivesiculitis with resultant adhesions about these structures. At times the vesicle is only a large abscess sac, and large quantities of pus and blood can be expressed from them. Microscopic examination of the expressed contents may show diplococci, staphylococci, pus cells, blood cells, and epithelia. The best diagnostic test is the therapeutic test. Massage of these vesicles will take care of a large majority of the cases. Massage plus the administration of vaccines will help many other cases. Injection of the vesicles through the vas deferens with a solution of some silver salt will benefit a great many more.

but there will still remain a few cases that must have the vesicles drained surgically.

Frequency of urination and hematuria are often produced by obstruction at the vesical neck or some pathological condition in the blader. Contracture at the neck of the bladder occurs a little earlier in life than the expected hypertrophy, producing symptoms almost identical with those due to prostatic enlargement.

There are three methods of examination that give us valuable information about the prostate.

1st.—Digital examination in the rectum where the size and shape of the lateral lobes can often be felt and occasionally the middle lobe when markedly enlarged, and not all within the bladder.

If upon digital examination of the prostate no groove or furrow can be felt in the middle line between the lateral lobes, we at once suspect malignancy, as it nearly always begins in the posterior lobes.

2nd.—The second method of examination is the soft urethral catheter. It must be introduced farther than normally before reaching the urine. We know that the posterior urethra is abnormally lengthened as a result of prostatic hypertrophy, and at the same time the amount of residual urine is determined.

3rd.—The third method is the use of the cystoscope. With this we can see the location of the prostatic enlargement with its encroachment upon the bladder floor, whether it be a single lateral lobe, a middle lobe, or all three lobes; the presence or absence of vesical calculi and the condition of the bladder wall. Usually there are trabeculations well marked if obstruction has continued long.

One must not forget that trabeculations often accompany locomotor ataxia without obstruction.

The cystoscope is even more valuable in the diagnosis of bladder tumors than in the prostate and contractures at the vesical neck. In fact it is the only definite and positive method of recognizing vesical growths. It is very satisfactory to examine a patient and be able to say to his physican and to him that there is a tumor growing in his bladder after having viewed it through the cystoscope. Not only that but one can state its exact location and approximate its size. Diverticula of the bladder wall can also be seen. A calculus protruding from the urethral orifice, pus or blood coming from a ureter, the condition of the mucous membrane of the bladder, especially about the urethral openings, are other conditions to be seen through the cystoscope. Marked erythema, erosions, and ulcerations about one urethral orifice causes one to suspect trouble in the corresponding kidney. Urethral catherization and examination of the urine from each kidney is of the greatest importance in determinig where the pathology is located, also its character. But recently I have examined several patients whose only symptom complained of was frequent urination extending over several months. This symptom grew progressively worse. Cystoscopic examination showed pus coming from a single ureter and ureteral catherization with microscopic examination of the collected urine demonstrated tubercle bacilli from one kidney and not from the other.

Subsequent surgical inspection of the suspected kidney has verified our diagnosis in all cases operated.

Renal tuberculosis very frequently produces no noticeable symptoms before the bladder irritation. Even when this first troubles the patient the urine may be microscopically clean, but if large quantities of urine are centrifuged, at least the entire secretion of 24 hours, and many slides stained, the tubercle bacilli can be demonstrated in about 80% of the cases where present. It has been my good fortune in a large majority of urinary tuberculosis cases examined to find the bacilli on the first slide examined. One must not forget that a negative slide does not mean that the patient does not have tuberculosis In some cases, though advanced, it is very difficult, almost impossible, to find the tubercle bacilli. In such cases the centrifuged sediment should be applied to the guinea pig and the pig watched for several weeks. In patients under thirty-five years of age persistent increased frequency of urination means gonorrhea, stone, tuberculosis, papilloma of the bladder or renal tumors in their order of frequency.

Sometimes the cystoscopic findings are misleading. Some time ago I was asked to make a cystoscopic examination of a woman who had been passing a great deal

of blood in her urine for about one month Ureteral catherization brought normal urine from the left kidney and very bloody urine from the right. Apparently all of her trouble was the *right* kidney, but the X-ray examination showed several calculi in the *left* renal pelvis and nothing in the right kidney. When these stones were removed through a pyelotomy all of her hemorrhage ceased. This case emphasizes the importance of not depending on an incomplete examination even though it seems that one is in the possession of *positive* evidence.

Another patient with a very marked hematuria and this was his only symptom. With the catheterizing cystoscope I learned that all of the blood was coming from the right kidney, left kidney normal. X-ray examination gave no information. Injection of collargol into the pelvis of the kidney through the urethral catheter and making a radiograph showed an abnormally shaped and located pelvis, nothing could be palpated. From this we concluded that there was enough trouble to justify an exploratory incision. This was done and a very large hypernephroma which had destroyed about three-fourths of the kidney was found and removed. This case illustrates the value of the combined and simultaneous use of the X-ray and cystoscope. The combined method of examination is of further value in determining the location of the kidney, hydronephrosis, kinks and strictures of the urethra. A tumor mass in the right side of the abdomen of a woman was thought to be renal. Radiograph of injected collargol showed the location of the kidney to be removed from the tumor mass. Further examination demonstrated that the mass was of the liver and gall bladder. Illustrative cases could be multiplied but enough have been cited to demonstrate the scope and value of the diagnostic methods available and applicable to the urinary tract. The importance of this kind of work is being recognized more and more each year and the urological specialist sees these patients earlier than formerly, which is better for all concerned, including the patient, his physician and the surgeon.

In conclusion I would emphasize the fact that ofttimes a symptom on the part of the urinary system seems an insignificant and trivial thing, yet some grave pathology may be back of it, which, if allowed to go unobserved and untreated, will cause serious trouble, if not fatal termination. We owe it to our patients to give them the benefit of recent scientific and accurate diagnostic measures.

IMPORTANCE OF THE EARLY RECOGNITION OF SURGICAL LESIONS OF THE LIVER AND BILE DUCTS.

By Chester R. Ogden, Clarksburg, W. Va.

(*Read at Annual Meeting of State Med. Ass'n., May 22, 1913.*)

Eternal vigilance—the price of liberty, as an axiom, is no more a self-evident truth than eternal vigilance is the price of health and longevity. The man who does not live out his allotted three score years and ten is the victim of carelessness or indiscretion—someone's lack of vigilance. Sickness and disease are the result of ignorance and oversight; someone is responsible for every case of typhoid as well as every accident to body, every infection. The profession of medicine and surgery of today has many triumphs to its credit in the mastery of disease and one is led to rejoice at the marvelous achievements in the treatment of human ills, but, with all of our progress, with all of our advancement, the clear day has not yet come and we are still groping in dark corners and in the regions of the twilight zones. Our vision as a profession seems yet to be clouded in the early recognition of those lesions of the liver and bile ducts that demand surgical intervention. The importance of the early diagnosis and the treatment of diphtheria and appendicitis seems to be quite well understood even by the laity, because of the constant teaching of the profession as to their importance but, the profession itself seems slow to recognize the early symptomatology and the corresponding surgical intervention in affections of the liver and the bile ducts.

Eight years ago, in a public address, Mayo said that the profession must not be led into thinking that the woods were full of gall-stones. Within a few years of that time he said that the vision of the surgical world was becoming clearer in this respect and that the woods were quite full of gall-stones and other infections of the liver and

bile ducts; and that the profession was learning more and more of the symptomatology and the importance of early surgical interference in these dangerous lesions.

The careful diagnostician of today sees appendicitis in the symptoms which but a few years ago he passed unnoticed. It is not difficult to detect that the house is on fire when it is nearly consumed by the flames, but the all-important consideration is to detect the early signs of fire before it gains much headway and extinguish the flames before the house is consumed. At home, and in the clinics of men of large surgical experience, I am convinced that the great majority of surgical lesions of the liver and ducts are not recognized as early as they should be and that the profession places too little importance on the early manifestations of these important lesions. Diseases of the liver and bile ducts demanding surgical care are quite common, in the opinion of the author and it is his further belief that gall-stones and other severe infections of the liver and its bile passages occur much earlier than we are accustomed to expect; and, that because a person has not reached the age of forty is no proof that he does not have such affections. It may be true that people who are fat, festive and forty have loud warnings of a balky liver, because nature at this time is beginning to tire in its many parts and can not longer tolerate the presence of these conditions along with others without complaining bitterly; but, if proper history is given of their earlier days, they will remember that there have been many early preliminary manifestations of dyspepsia, gastralgia, intestinal indigestion and biliousness. At this age, just mentioned, most often comes of course the grand finale—the classical symptoms and the open season for gathering the crop. The gall-bladder, like the appendix, seems to have but two functions,—to support hospitals and to kill people. Someone has said that gathering the crop of gall-stones is one of the most profitable pastimes of modern surgery, and that the annual yield is very, very large. It is believed that the perennial yield will be largely increased from time to time as we come to understand more fully the true meaning of those symptoms which formerly have and now too frequently do, masquerade under the disguise of stomach troubles. acute indigestion and liver complaints. Somewhere I have seen a little couplet, which, as a biography, covers our three score years and ten pretty well, when we consider the question of gall-stones; marking each decade by a milestone:

Rhinestone, jackstone, curbstone, teeth,
Solitaire, gallstone, tombstone, wreath.

Dieulafoy, in his latest book, says that gall-stones with bile duct infection is one of the most common troubles of the human race. The various theories as to their formation will not be discussed, but, sufficient to say that their presence is due to infection to the presence of micro-organisms. The entrance of germs into the bile ducts and gall bladder cause a cholecystitis, thus altering the composition of the bile and in this manner setting up a nucleus for the production of stones. There is no doubt that typhoid plays an important role in the causation of stones—coming on from five to ten years after the attack of fever.

In the normal state the bile ducts, the gall bladder and the bile are sterile. Effusions of bile, if normal, into the peritoneum do not cause peritonitis. Bile is not antiseptic, germ destroying, as has been supposed, but, on the other hand, it is really a valuable medium for germ culture as is ordinary broth. Colon bacillus, staphylococcus, streptococcus all grow rapidly in bile. The question of microbic origin—that is of intestinal catarrh spreading to the bile ducts and becoming a stone-forming biliary catarrh, seems to be established.

The classical hepatic colic is usually easy to diagnose; it occurs generally a few hours after the ingestion of food and for this very reason still called by many acute indigestion. The onset is sudden, the patient complains of a peculiar, sharp, cutting pain which radiates in several directions,—to the pit of the stomach, the umbilicus, the right hypochondrium, the right shoulder and the lower part of the scapula of the same side. Pain may be continuous or intermittent. The attacks last from 6 to 12 hours, though they may presist for several days, sometimes with fever and sometimes without fever. If the calculi are in the cystic duct and not in the other ducts, the vomit, if present, shows bile; if in the common duct and the passage of bile to the intestine is thus obstructed, bile is absent.

The same explanation applies to the discoloration of the feces.

Generally speaking ,a classical attack of hepatic colic ceases suddenly and the patient feels an immediate sense of relief. The stone has either gone back to the gall bladder or passed through to the duodenum.

This short description of classical symptoms of hepatic colic in a way describes a clearly drawn case of gall-stones, but, by no means, should we expect all these symptoms to appear before we are willing to diagnose the case. Many people with gall-stones simply complain at times of indigestion,—slight cramps in the stomach, which may be classed as gastralgia and acute indigestion when it is, in reality, hepatic colic.

The yellowish tint of the skin and conjunctiva which so often follow these attacks of indigestion, explain the true nature of the origin of the trouble.. Murphy says that less than seventeen per cent of gall-stone cases show jaundice. Pronounced jaundice is indicative only of obstruction to the escape of bile to the bowel,—a common duct lesion or cancer.

Another important symptom is mentioned by late writers, and one to which I especially call attention as occurring with or without colic, and that is, vertigo. Vertigo is a common symptom of infection in the bile ducts if trouble is taken to observe it. Vertigo occurs in gallstone, but not in renal colic. This vertigo usually excites the patient into the fear that he is going to have a stroke. In many cases of gall stone there is a tendency to syncope. Another symptom of great importance is rigors and fever; this fever is not due to the cholecystitis or to abscess of the liver, it is what Dieulafoy calls satellite fever, is a grave symptom and indicates the necessity of early surgical intervention.

Calculous cholecystitis shows itself in various ways. In one of the most common types, the gall-bladder is shrunken and diminished in size, often reduced to a calculuos stump. The walls become sclerosed and retracted on the stones. No tumor is found in these cases, as the shrunken bladder is retracted under the liver, it cannot be felt on palpation and is, in itself, no aid to the actual diagnosis. In another type less common, a tumor is found. The walls of the gall-bladder become hard, hypertrophied and thickened. The size of the tumor is due more to the enormous thickening of the bladder than to the presence of fluid in the cavity or a large number of stones. There is still another type, though rare, the type characterized by great dilatation of the gall-bladder, the thinning of its walls and the presence of fluid in the cavity. Some of these forms of cholecystitis are often followed by pericholecystitis, adhesions from gall bladder and neighboring organs, (intestines, pylorus, cystic duct), ulcerations, perforations, fistulous tracts, peritonitis, etc. Indigestion, tenderness in the region of the gall-bladder, pain in the right hypochondrium, colic, jaundice, fever, tumor, each has its importance in the diagnosis, but, even with all such information at hand and cardinal symptoms in mind, many, many cases of gall stones and infections of the liver and bile ducts, are overlooked, as is so often revealed in the post-mortem examinations.

The medical and surgical profession should realize that the expression indigestion, as a rule, means nothing in itself, that the stomach per se is very seldom the true factor in the troubles so often placed to its credit. Hamilton in a recent paper states that in two hundred and fifty five operations for the removal of gall-stones, 50% of the deaths occurred in which it was necessary to cut into the common and the hepatic ducts. In 56 cases operated on for long standing lesions, and common duct obstruction, there were as many deaths as there were in the 199 cases in which operaion was done early and in which the stones were confined to the gall-bladder and the cystic duct.

Men of large experience, such as Mayo, Murphy and Deaver, give us statistics sufficiently convincing as to the great importance of the early recognition of the surgical lesions of the liver and the bile ducts and their corresponding surgical treatment. There is much to be said of the symptomatology of these lesions, but time will not permit further mention in this paper. The surgical profession has quite nearly standardized the technique of the surgical procedures in the treatment of these conditions but the all-important thing, symptomatology, and the early recognition of the presence of these surgical lesions is far from being what it should be today. It may be true

that doubt will occur in the diagnosis of the unusual cases, which are to be confounded with appendicitis, intestinal obstruction, pancreatitis, renal calculi, etc., but it is important and desirable in cases of persistent indigestion, dyspepsia and continuous unpleasantness in the right hand upper corner of the abdomen, that exploration be made while the patient's vitality is yet good.—before the house is destroyed; in other words, the door should be opened and inspection of the room be made to see where the troublesome occupant is located. It is not mere fancy when the statement is made that more people die yearly in this country, directly and indirectly from liver and bile duct infections than from appendictis. Appendicitis may possibly be more common, but its early symptomatology and the necessity for early surgical intervention have been so impressed upon the minds of both the profession and the public, that very few of those troublesome worms long escape the surgeon's knife, and, as a consequence, we have a low mortality from this cause; while, on the other hand, in gall-bladder and bile duct infections, we still persist, as a profession, in calling their symptoms indigestion, dyspepsia, gastralgia, etc., and in sending such complaining patients away from our offices with tincture of Nux vomica and soda, only to have them return from time to time with the same complaints; and, then finally, when their health is gone and the house almost consumed, like a flash of lightning from the clear sky it dawns upon us that our patient has gall-stones or some infection of the liver and bile ducts.

Sudden deaths attributed to acute indigestion or to ruptured vessels, if followed to the post-mortem table, would show very many surprises in the consideration of these lesions. Under the closest surgical scrutiny it is possible for a person to go well through life with a fine collection of uncut stones, the only signs of which are to be found in occasional attacks of indigestion or biliousness.

It is claimed that one in every eight women over forty have gall-stones.. The probabilities are that this is even too low an estimate.

While stones are found in most women over forty, is it not probable that gall-stones are discovered in women at this particular time of life because they co-exist along with other abdominal and pelvic lesions incident to childbirth and married life, for the treatment of which they are brought to the operating table, thus affording an opportunity for inter-abdominal inspection and the discovery of stones?

It is the belief of the essayist that gall-stones as a rule begin to form much earlier in the lives of individuals than is generally supposed.

I have held to this theory for some time and several late experiences in my service at St. Mary's Hospital have given me more convincing evidence that the gall stones cases which come to the operating table are, in the majority of instances, of long standing and early formation.

Many quite young individuals, as experience has shown, harbor unsuspected mines of stones in the right hand upper corner of the abdomen, which, unexpectedly, are dug out when exploration is made in that vicinity.

In following up the advice of those who suggest early exploration and operation in suspected cases, it is possible that the surgical prospector may sometimes fail to strike pay dirt owing to some error of assay, but later on, the grub stake is settled just the same as if the general claim had been located; for, with drainage instituted, the ceaseless ebb and flow of infected bile has cured the chronic cholecystitis and the patient is relieved. The time has come when the upper abdomen, especially the right hand corner, should be inspected and cared for with the same interest and with as little delay as the ever annoying south-west corner; and furthermore, surgical lesions of the liver and the bile ducts should not be too readily excluded in making up our diagnosis of troubles referred to the abdomen.

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ETIOLOGY OF MILIUM.

By G. A. Aschman, B. Sc., M.D., Wheeling, W. Va.

(Read at Annual Meeting of State Med. Ass'n., May 22, 1913).

Milium is the name given to a disease of the sebacous glands situated in the eyelids. It is characterized by small pearly-

white or yellow, round bodies beneath the epidermis. They are about the size of a millet seed (hence the term), translucent and slightly elevated above the skin surface. Calcareous infiltration frequently occurs,

The text books on Ophthalmology devote only a few lines or paragraphs to this disease; its cause is either not mentioned or declared to be unknown. The textbooks on Dermatology have a little more to say, as milium does sometimes appear in other parts of the body. But they distictly state that it is found most frequently around the eyes and on the cheeks and forehead. Pusey says that it is "most frequently the result of the growth of the horny epidermis over the mouth of the sebaceous follicle, which is followed by retention of sebaceous matter beneath the horny epidermis. These lesions are thus only slightly different from comedones."

One or more of these little retention tumors are of rather frequent occurrence, and when in small numbers cause no especial inconvenience. As a rule their contents are of a sebaceous nature and the removal may be accomplished by puncturing and touching the exposed sac with nitrate of silver, electrolysis or pressure. But sometimes, when they appear in greater numbers, they become unsightly, and if situated on or near the border of the eyelid can cause disagreeable irritation.

I desire to report three cases in which milia were presnt in such great numbers they were positvely annoying to the patient. I put them on record, however, principally because in all of them a certain factor was also present which seems to me to be not merely a coincidence, but of etiologic importance in the formation of such multiple deposits.

W. S., a prominent city official, 30 years of age, came to me first twenty years ago with the complaint of an irritation in both eyes, caused by little white growths in the eyelids, some of which were pressing so close to the lid-borders that upon shutting his eyes they produced the sensation of a foreign body or in-turned lash. I found the skin of both upper and lower lids literally studded with innumerable white or slightly yellowish round bodies, many twice as large as a good sized pinhead, others a little smaller, some barely perceptible. They were slightly elevated above the surrounding skin surface, and several were impinging on the lid-margins, thereby producing an annoying irritation. To relieve this, as well as the unsightliness, I had him come about once a week for several months, and removed as many as possible at each sitting by small incisions and expression of a partly fatty, partly gritty or chalky substance. While much improved in condition and apparance, it was impossible to make a "clean sweep," as it were; as I hesitated to excise and cauterize the minute sacs thoroughly, fearing bad cosmetic results. In the intervening years the patient has been under my care at several periods, as new milia would form from time to time. His appearance is now much improved, but he is still going about with the white looking eyelids, only apparent, however, upon closer inspection and somewhat covered up by properly fitted glasses. This gentleman has always been of sound body, without the slightest history of acquired or hereditary disease. Only one peculiar feature presented itself. He states that he had no trouble, so far as he knows, with his first set of teeth, but that of the second set only very few ever appeared. The molars came in normally, but the incisors, canines and bicuspids have been missing since childhood, and so, of course, he has been wearing artificial teeth ever since. There has never been decay, but simply lack of formation. From the very beginning of my knowledge of the case I noted the peculiar coincidence of multiple milia of the eyelids and the lack of second dentition, but did not formulate any special connection between them until later.

In August, 1905, L. M., 25 years old, a traveling man passing through the city, consulted me on account of a disagreeable irritation of the eyes. Upon examination I found milium in both upper and lower lids to the extent of about twenty pinhead sized bodies to each eye, three close to the lower lid border of the right eye, and two similarly situated on the left side. By removing them the irritation was relieved, and upon examining their contents I found them to be composed of fatty detritus surrounding a small, gritty, chalky nucleus. The gentleman stated that he had been afflicted with these little white growths as long as he could remember, and had had

them removed several times before in other cities. He volunteered the statement that neither he nor anyone else could account for them. His personal history was excellent, but upon inquiry he admitted that his second set of teeth had never come in properly in the upper jaw. I found that he wore a plate with the upper incisors and the right canine tooth inserted to take the place of the missing natural ones. The gentleman came to see me a second time on the same trip for some little additional treatment, but has never returned and passed from my knowledge.

Two years ago a Slavish woman, 20 years old, from one of the coal-mining towns on the other side of the Ohio, consulted me on account of an acute case of trachoma. At the same time I found several milia in both lower lids, which led me to inquire into the condition of her teeth. She reported that when about ten years old she had passed through a severe attack of typhoid fever, after which all her teeth had decayed, dropped out or been removed; and she has been wearing upper and lower false teeth ever since. In this case the milia were not so numerous, five or six each side, but somewhat larger than usual. One was the size of a match-head, and its contents so firm and hard that they could be shelled out in the shape of a calculus.

For the past several years I have been inquiring in every case where milium presented itself, even in older people, as to the condition of the teeth, but they being so frequently defective, I have so far not been able to elicit any further evidence.

In considering the three histories quoted above it seems to me that the appearance of milium in multiple form in young persons in whom there has been faulty or partial lack of second dentition is not a mere coincidence. In talking with dentists on the subject, they have agreed to the plausibility of my theory that the lime-salts not being used up in the formation of the teeth may sometimes be deposited in other parts of the human body. We know, of course, that in older people there is frequently calcareous degeneration of different tissues, but in the growing body the lime salts are of special physiological importance, being absorbed and utilized in greater amount. Phosphate of lime forms a part of the normal structure of every organ, but especially of the bones and teeth. While lime is being constantly discharged from the body as physiological waste material, a certain amount, not being normally utilized, may sometimes be deposited vicariously in other parts.

I therefore make bold to advance the thesis that milium, when developed in multiple form, with chalky contents, is caused by vicarious deposit of the constituents necessary for the formation and structure of the human teeth in the sebaceous glands of the skin.

LOCAL ANESTHESIA IN THE RADICAL CURE OF INGUINAL HERNIA.

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(Read at annual meeting of State Medical Ass'n, May 22, 1913.)

There is a certain amount of stored energy in every individual and this energy may be discharged by physical injury, physical exertion or mental emotion. It is very important to know that inhalation anesthesia does not prevent injury impulses from being transmitted to the brain and thus liberate their nervous energy and produce exhaustion and shock. Inhalation anesthesia does not act on all parts of the brain alike; the greater part of the brain is awake and responds to injury, producing shock in surgical operations as though no anesthetic had been given.

All of us who have been so unfortunate as to be subjected to surgical operations remember how weak and nervous we were after the operation, and how long it took us to have that lost energy restored. A great many patients fear inhalation anesthesia more than the operation, and for this reason continue to wear trusses; but when local anesthesia is explained to them they will submit to a radical operation.

There is a pharmaceutical house in this country that puts up a tablet composed of cocain and adrenalin, each tablet containing 0.05 grm. or ¾ gr. cocain and 0.00016 grm. or 1-400 gr. adrenalin. These tablets can be sterilized in a glass tube or vial by an autoclave sterilizer. You can drop your tablet in warm normal saline solution and make any strength you desire. It is wise

to prepare your patient and cover the field with a 50% tincture of iodin solution. Prepare the patient as though you were going to give a general anesthetic. Clean out the alimentary canal and give a soft diet. It is not necessary to use over ¼ to 1 gr. cocain in the most difficult herniotomy. Toxic symptoms are not observed when the weak solutions are employed. The weaker the solution the greater the amount of cocain can be injected without producing toxic symptoms. All patients should be given a hypodermic injection ¼ gr. morphia, 1-150 atropin a half to an hour before commencing the operation to allay any restlessness or nervousness. This also allays any pain actual or imaginary that may exist. It prevents or lessens psychic shock and prevents toxic effects in patients who have an idiosyncrasy for cocain or any allied alkaloid. Sometimes it is wise to add hyoscin to the previous dose of morphin in severe cases. The success of local anesthesia is due to the patience and correct knowledge of sensory nerve distribution, with special training in this method. When you use weak solutions you must wait and give plenty of time to produce an analgesic effect. I prefer to use one-tenth of 1% for all the tissues except the nerves and sac, and for one-fifth of 1% for blocking the nerves and injecting the sac.

It has been stated that one out of every fifteen adult males has a rupture, and in Germany it has been determined that a ruptured person possesses but 85% of earning capacity. How important, then, that all ruptured patients be restored as nearly as possible to the normal by surgical operation, especially since this can be done under local anesthesia.

It is a positive fact that cocain injected intermittently into the circulation amounting to 1 gr. or less, taking an hour to inject, is less dangerous than ether, chloroform, or any general anesthetic.

The modern surgical operation for inguinal hernia in the hands of a clean surgeon is without danger except from the anesthetic, and this method should receive the commendation of the surgical profession.

When the surgeons are convinced of the painless operations in strangulated hernia, then local anesthesia will get its reward. The strangulated loop of intestine can be drawn up and have hot saline towels applied until its color and vitality are restored, and thus, should it be necessary, the loop can be left quite a while where it is not convenient in general anesthesia. There is no doubt that some patients are not able to stand the shock of general narcosis added to that of the strangulation.

You may spray the point at which you desire to start your injection with chloride of ethyl. When you inject your solution you form a wheal, and then you should hug the skin and start each injection in the opposite edge of the wheal. The depth to which the needle is plunged in the skin is important. The highly differentiated end organs of the sensory nerves are superficial. When the needle point lies true it can be seen through the skin. If there is much adipose tissue you should infiltrate it before the skin is incised, as the fat will not hold the solution if the skin is cut. The nerve filaments pass through this fat and give pain if the part is not rendered analgesic.

With an aseptic technic, removal of the sac and suturing each layer properly, the percentage of cures in the hands of experienced operators is about 98½ to 99%. There are many methods of operating, but the Bassini or modified Bassini is probably as good as any. Every operator should decide for himself the method he prefers.

The absence of nausea, vomiting, and shock, with less operative pain than follows general narcosis, contribute materially to the comfort and safety of the patient. If we prevent the danger, the dread and disagreeable nausea following general narcosis, we may turn a surgical defeat into a colossal victory.

The nerves supplying sensation to this field of operation are the ilio-inguinal, ilio-hypogastric and genitocrural. The peritoneal sac is differently supplied. Cocainization of the ilio-inguinal nerve blocks the sensation with the infiltration sufficient to render the operation painless. Finding and identifying the ilio-inguinal is very easy as a rule. Just beneath the external oblique aponeurosis you will observe this nerve. Very rarely it is broken up into its distributing branches before it enters this

field. If the other two nerves are visible during the operation they can be cocainized, but if not seen thorough infiltration is sufficient.

There are but few blood vessels and nerve filaments encountered in this operation if you keep above the external ring. Infiltration is necessary in the internal oblique muscle, around the internal ring and around the neck of the sac. The sac should always be. completely removed, and the stump quickly retracts owing to the elasticity of the peritoneum.

Never use a truss after an operation, as it causes a thinning and atrophy of the scar tissues and weakens the new scar tissue formed. If the patient is very corpulent it is wise to support the parts with an elastic bandage.

As to the causes of recurrence, no doubt the chief is septic infection. The careful preservation of the nerves in the operative procedure is a very important factor in securing primary union and preventing recurrence.

Rough handling and pinching tissue with forceps, and the inclusion of nerves, may lead to paresis of the muscles which are supplied by these nerves and thus produce a thinning and weakened condition. A neuritis will usually follow the inclusion of the smaller nerves in a suture, and this persists until the suture is absorbed or the nerve degenerates.

Old age, organic lesions of the heart, lungs, and kidneys are not contra-indications against the use of local anesthesia, but in general narcosis they render the operation dangerous.

To prevent recurrence make clean cut dissections and see that there is no adipose or loose tissue between your overlapping flaps. I prefer Pagenstecher's linen for ligature material in laborers for deep or buried sutures. I use 20 day chromicised catgut for deep sutures in all other cases. Close the skin with iodine catgut or silkworm gut, and put a rubber tissue drain at lower end of incision beneath the skin, and let out the serum and solution that collects

The vomiting after general narcosis may produce a giving of the deep sutures which is avoided by local anesthesia.

The cocain solution should be freshly prepared and made with warm normal saline solution. It should be used warm and not cold or stale, as fungus begins to form in a few hours and is septic. When the solution is sterile and is isotonic with the tissue fluids, it does not interfere any more than does normal saline solution. If the solution is not iso-osmotic it will cause swelling of the tissues from cellular inhibition according to the law of osmosis. Solutions of less density than tissue fluids cause pain on injection.

THE TREATMENT OF ARTERIOSCLEROSIS.*

By Louis Faugeres Bishop, A. M., M.D., Clinical Professor of Heart and Circulatory Diseases, Fordham University School of Medicine, New York City; Physician to the Lincoln Hospital.

A complete discussion of the treatment of arteriosclerosis within the limits of a paper is manifestly impossible. The condition is so extensive, so prolonged ,and leads to so may complications, that it is co-extensive with a considerable fraction of the practice of internal medicine and the specialties, so it is necessary to leave out of account for the present, symptomatic treatment or the treatment of complicating conditions, such as abnormalities of blood pressure, degeneration of organs following circulatory accidents ,and primary kidney disease.

The reason that so little advance has been made in the knowledge of the treatment of this disease is, it labors under a misnomer and attention has been directed to the structure of one set of organs, the blood vessels, while, in fact, the tissues of all the body are equally the seat of the disease. The clinical conditon known as arteriosclerosis no more essenti allyconsists of sclerosis of the arteries than typhoid fever consists of ulceration of the intestines. But ulceration of the intestines in typhoid fever is a local manifestation of a general disease ,and in the same way thickening of the arteries is the result of a general condition. There may be a localized ulceration of the intestines constituting a primary disease; and there is a form of inflammation of the arteries that seems to be local. But primary ulceration of the intestines has nothing to do with the ulcera-

tion of typhoid fever, and endarteritis has nothing to do with that clinical condition known as arteriosclerosis that attacks a large proportion of the human race after middle life.

Arteriosclerosis is a disorder affecting the cells of the whole body, including the blood vessels, in such a manner that by and by circulatory difficulties arise, and the heart, blood vessels and kidneys become conspicuously involved. But coincidently, and not consecutively, the kidneys, liver and lungs undergo damage. This may be due to other things, but it seems to me that in the vast majority of cases it can be traced to the effect of substances that are, or have become, poisonous to the cells; and furthermore, that these substances are ordinarily derived from protein taken into the body as food.

It is not the effect of protein on the individual, but the reaction of the individual on the protein, and when the process begins it is not because any change has taken place in the particular protein, but that something has taken place in the individual which makes him susceptible to damage by it. The sensitiveness to proteins is an important chapter in pathologic physiology. It is very familiar when it presents itself in the form of food idiosyncrasies, though, strangely enough, the vegetable proteins, which cause the greatest discomfort in their reaction, cause the least harm. A person is safeguarded if the foods to which he is sensitive cause discomfort.

Arteriosclerosis is liable to begin when, through some accident of food poisoning, severe illness, nervous shock or some unknown incident, the cells of the body become sensitive to particular proteins found in customary food. From that time on, providing the ingestion of this food is continued, there is a continuous sub-symptomal anaphylaxis leading to irritation, and finally to changes in the tissues—perhaps to replacement of some of the cells by connective tissue. This takes place throughout the body; in the blood vessels, leading to arteriosclerosis, from which the disease takes its name; in the heart, leading to cardiosclerosis; in the kidneys, leading to loss of kidney tissue; in the liver; in the lungs, and in the nervous structures.

The circulation of blood through the damaged body becomes a greater and greater task, and the damaged heart and blood vessels take on changes and hypertrophy from functional hyper-activity. The impaired organs lead to failure of internal secretions and general metabolism, and the person who started with a sensitiveness to a single protein, after twenty-five years is found presenting the picture of the terminal stages of so-called Bright's disease.

If this be a true picture, a logical conclusion is that the treatment of arteriosclerosis must consist in the discovery and removal from the dietary of such protein, or proteins as are unfriendly to the individual person: and as the absorption of protein is profoundly affected by the condition of the intestinal canal, much attention is justifiable to those conditions that have been discussed of late under the titles of "intestinal putrefaction" and "auto-intoxication."

These considerations have led, with me, to the development of a system of diet that I call for my own convenience the few-protein diet. So long as the person is eating all kinds of proteins it is very hard to draw conclusions, for even a small quantity of an offending protein may be sufficient to cause a continuous cellular irritation. And, curiously, there is some foundation in the belief that sensitiveness to particular protein may be overcome if that be massively administered. The irritation seems to be due to a moderate quantity.

As a practical matter, the treatment of arteriosclerosis founded upon the conception of the disease outlined above consists in a modification of such a plan as one would use in acute food poisoning.

Just as in acute food poisoning castor oil is universally and eternally acknowledged as the remedy without a peer, so also it finds an important place in the management of conditions of long standing and gradual onset. In the presence of well developed arteriosclerosis and the picture of sub-symptomal continuous anaphylaxis, an ounce of castor oil is ordered at intervals of forty-eight hours for three doses. Then after a week another dose is given and as long as the person is under observation a dose at intervals of not less than one month.

Out of the diet are taken all eggs, fish, meat, fowl, and all soups, except vegetable soups without stock. Cheese is allowed as furnishing protein in a safe form, and later, chicken may be allowed if experimentally it is found that the blood pressure does not

rise as the result of it. Iodine in small doses seems to do as much good as larger ones.

The reduction of blood pressure by drugs for the sake of repressing this symptom of the disease has been sufficiently criticized not to need to be taken up here. On the other hand, nitroglycerine is the great symptomatic remedy for all emergencies arising in the course of the disease, whether it be attacks of dyspepsia, pain, vertigo or even oedema of the lungs.

Out of door exercise is essential to the welfare of the sufferer from this condition. The cells of the liver, kidneys and probably, in a measure, all the organs suffer impairment by their reaction to the protein that in the individual instance causes the disease.

Besides exercise there is no diuretic so valuable in cirrhosis of the kidney, and for the cirrhotic liver no stimulant so efficient.

Out of door life is life saving, particularly to the dweller in cities. It will not prevent arteriosclerosis in the country dweller, but even here it allows vices of eating that would kill the city man in short order.

For the cure of arteriosclerosis, the underlying secondary causes must be removed. Among these, mental stress is the most important, and the development of a sound philosophy of life is necessary to go with the castor oil, the few-protein diet and the out of door life.

(Read before Ass'n of Am. Physicians, in Washington, D. C., 1913.

54 West 55th Street.

Selections

PITUITARY EXTRACT IN UTERINE INERTIA.

Dr. J. Clifton Edgar, New York: I wish to report seventy cases, hospital and private. They include, in the first and second stages of labor, thirty-nine cases; immediately after the third stage, nineteen cases; in cesarean section, six cases, and for the induction of abortion, six cases. Ampules or vaporoles of the drug should be employed, as in my experience, constant results failed when the pituitary extract in bulk solution was used. For decided action, 0.4 gm. of the drug is usually called for, although in ordinary cases, with little obstruction, half that dose is sufficient. The effect lasts thirty minutes, and repetition of the dose is often called for. Intramuscular injection is usually satisfactory; causing no local reaction or pain. Further, no toxic symptoms were observed from the use of the drug even in maximum doses. Pituitary extract may be combined with ergot when the action of the former fails, and with heart stimulants in shock cases, without compromising the actions of these drugs. Pituitary extract has no place in normal labor, the administration should be confined to instances of primary and secondary inertia, to postpartum hemorrhage and cesarean section, in the last as a substitute for ergot.

The drug produces strong intermittent uterine contractions, often prolonged for several minutes. We have never observed true continuous tetanic uterine contractions (tetanus uteri). Although theoretically the uterine contractions are intermittent, practically in the face of resistance, the contractions approach to the continuous in character and clinically must be so reckoned with. Full and even small doses of the drug in the first stage of labor have caused fatal compression of the fetus, premature separation of the placenta, and deep rupture of the cervix. In the first stage or when some obstruction exists in the second stage, I give small tentative doses of pituitary extract, not with complete delivery by means of the drug in view, but to bring the head within easy reach of a simple forceps operation. Seven of my thirty-nine patients were thus treated. Pituitary extract acted promptly and efficiently in most of my thirty-nine cases of inertia in the second and first stages. Its action was more positive in multiparas than in primiparas; it acted better at full term than in premature cases; also better in the second than first stage of labor, and when administered shortly after the spontaneous artificial rupture of the membranes.

In the eighteen cases in which the drug was used immediately after the third stage for post-partum hemorrhage due to inertia, the results were disappointing—so much so that I consider its action here most unreliable and not so positive as the ergot preparations.

In the eighteen post-partum cases there was no effect from the drug in two cases, it was necessary to use ergot in two instances, hot acetic acid douche in two more, and to pack the uterus in seven cases; only in the remaining six cases was good uterine contraction observed. In cesarean section no advantage was observed in pituitary extract over ergot, aside from the observation that the former acted more promptly and hence need not be administered so early in the operation. In induction of labor the drug failed to initiate contractions, but apparently intiated them after the use of gauze, the bougie or hydrostatic bag for inducing labor. I believe that the drug strengthened already existing contractions not yet apparent to patient or physician. For primary inertia in abortion cases, the results with the drug were disappointing. For atony of the bowel and bladder and as a galactogogue the results were negative. The dangers to mother and child in the indiscriminate administration of this drug for primary or secondary inertia of the first or second stages of labor must be reckoned with. Only a few of the thirty-nine cases of inertia were in the first stage of labor, and these are earlier cases. The remainder were of the second stage, or border-line cases just merging into the second stage.

I consider the use of the drug in the first stage a dangerous practice, liable to cause death or deep asphyxia of the fetus, separation of the placenta, uncalled-for laceration of the cervix and possible uterine rupture.

In the thirty-nine cases of inertia in the first and second stages, two and probably four stillbirths were due to the use of pituitary extract before full dilatation, and three instances of deep laceration of the cervix requiring suture to control the bleeding. I look on the use of pituitary extract before full dilatation or dilatability of the cervix as equivalent to the use of ergot at this time. In fact, it is probably more harmful than ergot, by reason of the more powerful contractions produced, and the uncertainty of its action. I have repeatedly observed prolonged tempestuous contractions, when the drug was given in the face of too much resistance, closely simulating tetanic contractions of the uterus (tetanus uteri). The action of the drug is most uncertain. One can never predict in a given case, either from the amount of the drug administered or from the character of inertia and the obstruction to be overcome, how powerfully the drug will act on the uterus. I have repeatedly observed both in private and in hospital practice 0.2 gm. of pituitary extract, half the usual dose commonly employed, produce such prolonged and powerful uterine contractions that uterine rupture was imminent and anesthesia was required to control the action of the drug on the uterus. In my opinion the drug should never be employed for inertia in any stage of labor, unless anesthesia is at hand for immediate use, and preparations complete for immediate operative delivery if necessary, to avoid uterine rupture. Finally, with due regard to its action and possible dangers, I consider pituitary extract a most valuable addition to our resources for the treatment of primary and secondary inertia. —Transactions of Am. Gynecological Society in *Jour. Am. Med. Ass'n.*

RESULTS OF TONSILLECTOMY UNDER LOCAL ANESTHESIA.

Bryan DeForest Sheedy, M.D.,
New York.

(Author's abstract of paper read at annual meeting of Am. Med. Ass'n, June 17-21, 1913.)

All of the one hundred cases reported upon by the reader of the paper were examined several months after operation and no patient under fourteen years of age was operated upon under local anesthesia. There was no grouping of the patients examined as to whether the throat conditions were the result of operation under local or general anesthesia. The enucleation of the tonsils had been performed by some one of the many methods in vogue for the last few years for the complete removal of the gland and as the operations were performed in practically all the public institutions in New York City many men of prominence in Laryngology were the operators, so that the results could not be attributed to poor technique on the part of one man.

The writer arrived at the conclusion that tonsillectomy, so far as removing pathological tonsils is concerned, is a better opera-

tion than the old-time tonsillotomy, but pointed out that many of the throat defects following the operation of enucleation are due to clumsy and non-surgical technique.

The writer also pointed out the normal relation of the surrounding parts to the tonsil, and put up a strong argument against the use of sharp instruments for the dissection of the tonsil from its bed, that being the cause of injury to the muscles with resulting deformities.

Of the one hundred cases examined months after operation more than 80% of the patients had deformed throats. The 20% of patients, with what appeared to be normal throats following the operation, were inconvenienced in no way at any time following the operation. Of the eighty patients thirty-four complained of speech defects for from one to three weeks after operation, sixteen complained of speech defects for more than three months after operation, while four had practically lost the singing voice. About 25% of the patients stated that their throats felt better and that they could speak and sing better after operation than before. Inability to use certain words had continued with 5% of the patients for more than six months after operation.

The variety of deformities following enucleation were classified as follows:

(1) The pillars on both sides had disappeared with the soft palate tightened to such an extent that the opening at the nasopharynx was narrowed.

(2) The pillars on both sides had grown together.

(3) The anterior pillar had wholly disappeared with a large amount of cicatricial tissue deposited on the posterior pillar.

In the four patients whose singing voice had been seriously affected, the posterior pillar had disappeared through amalgamation with the anterior or with the lateral wall of the pharynx.

The reader emphasized the fact that he did not think the last word had been said in regard to tonsil enucleation, and proposed as a remedy for preventing the unsatisfactory throat results an operation for removing the tonsil by what he called the "Eversion Method", and with charts and diagrams pointed out that the capsule of the tonsil is simply a bag, the bottom of which may be pulled through its mouth so that its inner surface becomes the outer, and that if the capsule with its glandular tissue is everted and a snare placed on, removing the tonsil with its capsule complete (there being no dissection and therefore no injury to the muscles surrounding) there would be no deformities.

The exceptions to the rule presented, viz., that the tonsil will evert on traction, were

(1) Those cases in which the capsule was bound down to the surrounding tissues by previous attacks of inflammation.

(2) Those cases where the capsule was very much contracted and contained cicatricial tissues only.

(3) Those cases of hypertrophied tonsils which had everted themselves and the tonsil was found everted when the patient applied for treatment.

The points advanced in favor of the procedure were:

(1) Simplicity of the operation.

(2) Practically no hemorrhage.

(3) Little or no deformity following the procedure.

(4) Only three instruments necessary for the operation, viz., tonsil tenaculum, blunt pointed tonsil knife, Tyding snare.

THE TREATMENT OF CANCER BY AUTOLYZED HUMAN FETAL TISSUES AFTER FISCHERA.

All attempts to effect cure or even limit the growth of inoperable cancer have been so uniformly unsuccessful in the past, that one hesitates to try out any new proposed methods. From the time when the much vaunted Cundurango was discarded, to the present, false hopes have continually been aroused, only to create bitter disappointment in the minds of both profession and laity. The logical queries which arise when a new cancer cure is proposed are:

(1) What is the rationale of the treatment?

(2) What is the treatment and how carried out?

(3) What results are obtained?

As to the rationale of the treatment the following three facts are offered by Fischera for consideration:

1. Observations show the extreme rarity

of spontaneous malignant tumours in young rats. This fact recalls the absence, or the very exceptional occurrence of simple neoplasms or specific tumours as epitheliomata or sarcomata in the newly born and young subjects, and leads one to believe that , in the early epoch of life, the factors necessary for the genesis of malignant tumours, do not exist.

2. The fact of the noteworthy and frequent resistance to the inoculation of neoplasms which rats acquire by previous injections of embryonic or foetal tissues. Such a fast suggests the existence of a substance contained in, or originating from, the inoculated foetal tissues which, on diffusion, render the subject immune to subsequent attempt to reproduce malignant growths.

3. The demonstration that homogeneous embryonic or fœtal tissues, when subjected to autolysis, by hypodermic injection or by local application, bring about the involution of the inoculated neoplastic elements, which always reproduce themselves and prove fatal. This fact strengthens a belief in the existence of substances which are generated by the special tissues during the process of autolysis, which when injected into the organisms, act on tumors in a way similar to that brought about by the preventive injection of embryonic or fœtal emulsion.

Fischera's method is as follows:

Fresh sterile human fetuses of 2-6 months of intra uterine life, are ground or chopped up and placed in a flask of sterile physiological salt solution, in the proportion of 1 gm. of the former to 20 centigrammes of the latter. Thymol or carbolic is added as a preservative and tuluol is placed on the top and the entire mixture is incubated for about 2 months at 37 C. The emulsion is then ready for use.

It is used hypodermically and may be given either at the site of the disease or at a distance. The dose is 2-4 cc. given at intervals of 2-4 times a week. Injections given at the site of the disease give rise to areas of hemorrhage or necrosis, while injections given elsewhere cause merely cytolysis with a moderate growth of connective tissue to replace the tumor. The constitutional effects of the injections are very different, according as to whether they are made in the tumor or at a distance; in the former case there may be a sharp rigor with a temperature of 102-104, while the same dose given in some other part of the body will give rise to no disturbance. This initial disturbance, Fischera considers a toxic phenomenon, and explains its production in case of local injection, by the abundance and fragility of the blood vessels in the tumor, and by the possible entrance into the circulation of the products of cytolysis of the new growth. The action of the fœtal extract he considers enzymotic, and as direct and selective. From this follows a relation between the dose injected and the size of the tumor. To avoid the use of too large a dose, he injects at the site of the disease, resulting in more energetic action; in case of large tumors, he advises excision in addition to injection of extract.

Fischera's observations upon the human subject were begun in September, 1909. Thirty-six cases have been treated, all past surgical cure. Twenty-nine had been previously operated upon. In all cases, diagnosis was established histologically, and in all cases during the progress of the disease, excisions were made of fragments for microscopic examination, in some cases as often as 8 times. Fourteen abandoned treatment at commencement for various reasons: 4 cases though favorable were of too recent date to pronounce upon, so that 18 cases remain. Of these 18, 8 have shown no improvement. Of these 10, 5 are reported cured and 5 are well on their way towards cure. Of the 5 cured, 3 are cases of carcinoma of breast with multiple metastases. One of carcinoma of rectum and one of adeno carcinoma of thyroid.

The microscopic results of the inoculation are a diffuse cytolysis of the neoplastic cells, which gradually becomes more pronounced, until the morphological entity was lost and the elements had broken up; there is intense infiltration of smaller cells of various size, especially around the blood vessels. There is active proliferation of connective and vascular tissue invading the whole region, some with giant cells. In short there is transformation of tumor substance into adult connective tissue, both fibrillary and sclerotic, with a cessation of all reaction and production of infiltration and multiplication.

In some cases, there is intense vascular stimulation of the neoplastic tissues, and a marked increase in volume, with a change of consistency, amounting to clear fluctuation. By aspiration a limpid lemon-yellow liquid is obtained, having the characteristic of a transudation, containing whitish particles in suspension.

Our cases showed a marked variation in their behavior toward the injection of the fœtal autolysate. Not only did the different types of cancer respond differently, but even the same stages of the same varieties of cancer in different individuals responded differently. Most of them were unaffected, showing no symptoms of any kind, whether the injection was made at the site of the tumor or at a distant part. Some showed slight general and local reaction, the temperature arising to 103-104. This was a case with carcinoma of the uterus. This case showed the greatest improvement. The local pain, discharge and offensive odor disappeared and there was quite marked general improvement, a return of appetite and strength and a normal temperature.

In conclusion, I wish to express my deep appreciation to my colleagues for their cooperation in this work.

William Lintz, in N. Y. State Journal of Medicine.

WHEN AND HOW TO USE NITROGLYCERIN.—In conclusion I wish to repeat and emphasize the following points:

1. The general indications for the use of nitroglycerin are (1) to relieve symptoms of localized arteriosclerosis or arterial spasm in vitally important regions of the body, and, when there is pain due to contracted or diseased arteries, in other regions; (2) to reduce general high blood-pressure in selected cases, if its continuance threatens accidents to the cardiovascular apparatus ;and (3) to clear the diagnosis.

2. The chief contra-indications to the use of nitroglycerin are (1) low or relatively low blood-pressure; (2) advanced chronic nephritis with very high blood-pressure and toxemic conditions producing high blood-pressure, as a rule; and (3) the presence of an idiosyncrasy in regard to its action.

3. Nitroglycerin should never be used for the primary purpose of a heart stimulant.

4. Nitroglycerin given under the tongue produces almost as prompt an effect as when injected under the skin.

5. Nitroglycerin, if given too long or in too large doses, can produce injurious effects which, however, usually pass away, at least apparently, when it is discontinued.—E. E. Cornwell in *Jour. Am. Med. Assn.*

THE DEADLY STABLE FLY.—At least one means has been found by which the deadly malady, infantile paralysis, is spread.

Experiments covering many months have resulted in the discovery by Professor Rosenau and his associates of the Harvard Medical School, that the common stable fly (stomoxys calcitrans) is a carrier of this disease.

According to the *Harvard Alumni Bulletin*, monkeys were first infected with the disease by injection and then allowed to be bitten by the stable fly. After a necessary interval these flies were allowed to bite other monkeys. These animals exhibited all the symptoms of the disease in six cases out of twelve, thus establishing the fact that the disease could be carried by these insects.

No principle, however, is regarded as scientifically established until it has been confirmed through repetition of the experiment by other observers. Accordingly, at the request of Dr. Rosenau, Drs. Anderson and Frost of the Public Health and Marine Hospital Service at Washington, working on the basis of the facts at tained at the Medical School, repeated the experiment and proved that the disease which developed in monkeys bitten by infected stable flies was infantile paralysis by injecting another set of monkeys with the culture from the monkeys bitten by the flies. Thus the proof that the fly carries the virus of the disease is complete.

IODINE IN WHOOPING COUGH.—Cavazzana (*La Pediatria*, February, 1912), after ten years' experience of the above mode of treatment, says that iodine is a valuable drug in the treatment of whooping-cough. The value of iodine in tuberculosis and in various infective diseases has been recognized by many authors, and the present author speaks highly of its use in typhoid fever. It is contraindicated in acute infections — for example, pneumonia, acute nephritis, measles, scarlatina, acute rheumatism, and influenza. In whooping-cough it is said to diminish the attacks of whooping to shorten the disease, and make it generally milder. During the last ten years, the author says, he has seen no severe case such as he used to see before he began the iodine treatment. It does not act as a direct specific. He administers the drug as follows: He dissolves the metallic iodine in KI and water in the proportion of 1 part of iodine to 15 parts each of KI and water. Of this mixture he gives 4 to 6 drops per diem in sweetened milk to a child of one year, increasing up to 10 to 15 drops in children over five years. Given in this way, he has not observed any intolerance. It does not matter in what stage of the disease it is given. Apparently, in addition, he sometimes gives quinine or camphor monobromide.—*British Medical Journal*, Jan, 4 1913.

The West Virginia Medical Journal

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WHEELING W. VA., AUGUST, 1913

THE JOURNAL is issued on the first of each month.

Subscription,	$1.00 per year
Single Copies,	15 cents

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Editorial

BABIES.

Notwithstanding the care and solicitude with which they are surrounded, babies have rather a hard time of it in this world. It only needs a glance at the mortality tables to convince one of this. Counting as babies, only children under one year of age, we find that nearly one-fifth of all that are born, die before the completion of that first year. Or if we extend the term to include those who have completed their second year, we find that about one-fourth have died.

Now there is something awfully wrong about this; startling, shocking. Such a frightful departure from a rate that we have every right to believe attainable, and are justified in believing ought to be normal, when these cold figures are before us, almost transcends belief. Think of it. In round numbers there died in the United States, in 1908, (the latest tabulation immediately at hand) 700,000 persons. Of these, 136,000 were under one year. From one to two years, 27,000, from two to three years, 12,000. In the first twelve months of life 136,000, in the next twenty-four months about 40,000.

What is the meaning of all this? What *can* it mean. Do human beings enter upon life less fitted physiologically for the performance of their bodily functions than pigs or chickens? Is their environment naturally less favorable for the perfect and harmonious working of these functions as the days lengthen into weeks and these into months? And then, what evolution, or revolution, rather, takes place after these first twelve months have passed, to account for that almost unbelievable difference which the next twelve show? 27,000 against 136,000. And who seem to care about it? Apparently only the doctors. In public gatherings, civic clubs, uplift societies, suffrage meetings, we seldom hear anything on this vital subject. Doctors, though, at medical society meetings, in medical journals and in private talks have been drumming this matter into unresponsive ears for decades. The whole thing seems, by common consent, to have been turned over to us to do what we can about it without vouchsafing much intelligent assistance from those whom, of all others, we should expect to be vitally interested. Let the dwellers on the farms be confronted by the loss of one in four of their lambs or pigs, or the housewives, with a like loss of their little chicks or ducklings, and they would lie awake half the nights talking about it, contriving methods to stop it, trying to figure out where the trouble lay. No two could meet on the public highway, or at church, or at a public sale, without earnest talk on the engrossing subject. Something would be doing all the time. And yet at the very times that these conferences were going on, the baby in the house as like as not would be sleeping in a stuffy crib in a dark, ill-ventilated room, swathed in a wad of superflous clothing, after a meal of milk populated with bacteria up to 8 or 10 figures to the c. c. No discussion as to the effects of these on its vital resisting powers, which must serve as its defense against the invasion to which it is constantly exposed of disease-producing entities. When any of

these have once taken hold we doctors are called in. We do what we can with the means at our command, the assistance we can get and the knowledge and brains that we possess. But the humiliating figures stare us in the face; 136,000; one in every five.

It is really true that this must be so, that nature has cared more providently for the pigs and chickens? Human foresight and human care unquestionably have done much to create for these, favorable and salutary conditions whereby their contest with adverse influences may be maintained with fair success. Surely as much can be done for human babies. Knowledge; knowledge is what is needed—the kind that is so; —so much of it is the kind that isn't so.— Knowledge distributed where it will do most good, in the home, among those in daily contact with them, those responsible for their care. This knowledge would be worth more than a hundred times over than that *ignis fatuus,* the ballot; and if women sought it with half the zeal and persistence they exhibit in the pursuit of the latter, they would soon extract from us all of it that we medical men possess, and perchance stimulate the acquirement of more. There may be some question of the advisability of teaching sex-hygiene in the public schools; there is none as to the teaching of baby hygiene in women's clubs. Fly extermination campaigns are well enough. The war against tuberculosis, altruistic no less than economic, we applaud to the echo. All the same, what we are concerned about just now—the world is full of paradoxes—is the furnishing of a greatly increased amount of pabulum for tuberculosis to fatten on. It will be up to the tuberculosis fighters to see to it that it doesn't seize upon too much of it to utilize for its fell purpose. Cut down that 138,000 one-half and these people will have 69,000 more to defend in the years that would follow. Plenty of work for all of us. These observations are put forth to start, not a train of thought, but a train of thinking. The farther the subject is pursued the wider the horizon grows. We hope to follow its trail further. L. D. W.

STATE BOARD OF HEALTH

It may be of interest to the profession to have a list of the members of the State Board of Health as just reorganized. We have therefore given the names under the head of State News. The new Board organized at a meeting held in Charleston, August 4th. Dr. W. W. Golden was elected as President and will serve two years. Dr. S. L. Jepson serves as Secretary by appointment of the Governor. The Board appointed a committee composed of the President, Secretary and Dr. J. E. Robins, who, with the aid of Governor Hatfield, will visit Morgantown soon, with the purpose of there establishing a Hygienic Laboratory, if it can be shown that the University can properly provide facilities and well equipped men for doing the work contemplated.

Much interesting business was transacted at the late meeting. Perhaps none of it was of more interest to the public than the revoking of the licenses of Dr. A. O. McClelland and Dr. Silas Roberts, who have been operating with the so-called "United Doctors" in Wheeling. The licenses were revoked "for dishonorable conduct" after a trial before the whole Board, at which the defendants were represented by attorney. We hope that this action of the Board may have a wholesome effect not only throughout our own state, but in the country at large, for this firm of "United Doctors" are widely known for their peculiar practices. We may have more to say on this topic in our next issue. S. L. J.

A SURGICAL DEGREE.

Of course our readers are familiar with the movement originated in the last meeting of the Clinical Congress of Surgeons held in New York City. It is recognized that far too many poorly equipped physicians are trying to do surgical work. Some limit should be put upon this. The following from *American Medicine* may be read with interest:

Two great questions were given especial attention and the results bid fair to be very far-reaching. It is safe to say that no scientific convention has ever accomplished more prac-

tical results than this Congress, and a high mark has been set for other gatherings.

The first great problem attacked was the early necessity of establishing a surgical degree. It was recognized that too many operations are performed by the illy prepared or inefficient, with the result that surgery suffers immeasurably. If special courses were established leading to a degree indicating special efficiency in surgery it was the opinion that surgical science would receive a wonderful impetus. A committee of the country's leading surgeons were entrusted with the proposition.

The other great problem was the evolution of ways of educating the women of the country to the significance of early symptoms of cancer of the uterus. The following resolutions tell the story:

Be it resolved, That the time has arrived when, if the surgeons of America are to do their duty to the citizens of this country, a campaign of publicity should be at once undertaken to bring to the attention of every woman in this country the early symptoms of cancer of the womb and to point out that if the cancer be detected in its early stages it can often be cured.

Be it further Resolved, That this society at once appoint a committee of five, to be named by the President, to disseminate this information.

And further, That this committee be instructed to write or have written articles to be published in the daily press, the weekly or monthly magazines, as may prove most expedient.

And, further, That they report their progress for the year to the next annual meeting.

Dr. Edward Martin, President of the Congress, appointed this committee to act in accordance with the resolutions:

Dr. Thomas S. Cullen, Baltimore, Md., Chairman; Dr. Howard C. Taylor, New York City; Dr. C. Jeff Miller, New Orleans; Dr. F. F. Simpson, Pittsburgh, and E. C. Dudley, Chicago.

Every one reading these resolutions cannot fail to grasp their humanitarian importance.

It cannot help but be a source of pride, not alone to those who managed and took part in this Congress, but also to the people of the whole country, that such a convention could be held in this day of hustle and hurry. While it is true every one in attendance derived great and lasting benefit, the results that are bound to accrue to the people at large emphasize again the unselfish, earnest and conscientious work that is being done by the physicians of our country. May the Congress of Surgery go forward as surely as its good works promise.

Dr. Charles Noble, in the same journal, closes an article on this subject, thus:

"It is impossible for a young man to recognize how foolish he is when he rushes into operations, not only without the wisdom born of experience, but also, as so frequently happens, without the training which can be acquired only by serving an apprenticeship; because, while the practice of a surgeon is a profession, it is also an art, and the operating surgeon must serve his apprenticeship or serve his time at the trade part of his profession, just as is true of every other mechanic, if he shall become a good workman. It is said that 'fools rush in where angels fear to tread,' and it is to be feared that this precept explains the mad scramble of so many young practitioners toward the field of operative surgery.

Every wise surgeon has taught the same turth: that the operator is somewhat like the poet, 'born, not made,' but that first he must be born, otherwise training can never make him a good operator; that is, if he has the mechanical dexterity, in addition, he must be trained by serving his apprenticeship as an assistant to a master. Thus only can the disciple hope to rise to the dignity of mastership. Until this truth shall be comprehended and put into execution, the sad spectacle which so depresses surgeons of wisdom and insight will continue to be manifested: many useless and therefore injurious operations performed by those lacking knowledge and wisdom in their mad scramble for practice."

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION elected at the Minneapolis meeting are as follows:

President, Victor C. Vaughan, M. D., of Ann Arbor, Mich.

Vice-Presidents, Walter Conway, M. D., of Atlantic City, N. J.; Frank C. Todd, M. D., of Minneapolis, Minn.; Wm. Smith, M. D., of Bowling Green, Ky.; S. G. Kahn, M. D., of Salt Lake City, Utah.

Secretary, Alexander Craig, M. D., of Chicago, Ill

Treasurer, Wm. Allen Pusey, M. D., of Chicago, Ill.

Next place of meeting, Atlantic City, N. J.

REDUCTION IN NUMBER OF MEDICAL SCHOOLS AND STUDENTS.

The total of 166 schools of all kinds existing in the United States and Canada in June, 1904, has in eight years decreased to 117 in 1912. Homeopathic schools, of which there were twenty-two in 1900 have now fallen to ten; electic schools from ten to six; the physiomedical schools have entirely disappeared. The total student enrollment, which reached 28,142 in 1904, has now declined to 18,412. As the student bodies of the higher grade schools have steadily advanced in numbers, this considerable decrease has taken place precisely where in the public interest it should take place, in the weaker schools. It is thus obvious that the destruction of one inefficient school does not merely result in increasing the enrollment of another: it actually and absolutely keeps a certain number of unfit men out of the profession.—*H. S. Pritchett.*

MALPRACTICE SUITS.

That malpractice suits against physicians are on the increase, there can be no doubt. The reason for this condition of affairs is hard to explain. Certainly not because of less scientific treatment given by the physician of to-day, for his qualifications are being raised constantly and his ability to treat patients more scientifically with greater knowledge and appliances is un-

questioned. It may be laid at the door of the shyster lawyer, who instills the desire to get something for nothing in the mind of a patient who previously had not a thought of blaming the doctor. To meet this condition, we must not be asleep. The state society, through its medical defense committee, is doing fine work in defending these suits and the members are not slow to realize its benefits. The prevention of these suits for malpractice is a subject worthy of thought. We should in the first place be very chary of offering criticism of another's work, all such being eagerly taken up and magnified by the patients, their relatives and friends. It sometimes happens that physicians' opinions as to the proper way of treating a case differ vastly, yet each may be right. It is then not for you to judge the case of your neighbor, but simply do the best you can for the patient and be content. Do not let professional jealousy tempt you to make some remark that may be the means of starting a malpractice suit. The Lord knows we all have failures enough at best, but to ascribe it to bad medical treatment would be most unjust. Another way of preventing malpractice suits from its moral effect was told in the *Iowa Medical Journal*, for January, by Dr. F. S. Speaman.

In an editorial, he says:

"Now it occurs to me that if the victims of these suits would follow the example of a doctor I knew back in the East there would soon be a decided diminution in the number of these outrages. This doctor had attended a woman in confinement, and apparently everything had gone satisfactorily. The husband and wife were, however, dissatisfied over something, and brought suit for malpractice, but when the case came to trial the doctor won. He then in his turn sued the couple for slander, and got $3,000.00 damages, with costs, against them, which no doubt did them more good than a year of the best sermons ever preached would have done. It might of course be objected to this that the majority of people who bring malpractice suits haven't got anything, so that it would be like trying to get blood out of a turnip. Granting that this is true, a judgment against them holds for a long time, and could be collected in case they should in the future ever have anything. But in any event they would be put to the expense of employing counsel, and would have it very quickly forced home to them that a lawyer isn't such a charitable institution as a doctor. It is very well to say that when smitten on one cheek one should turn the other, but when we do that we are in danger.

DEATH BLOW TO THE QUACK ADVERTISER IN WASHINGTON.

If one will familiarize himself with Senate Bill No. 35, passed at the recent session of the Washington legislature, it will appear that the medical fakir is doomed in this state. While this act makes no mention of medicine or the quack doctor, their inclusion is evident at a glance. It is to be noted the act states that any person, firm, corporation or association who, with the intent to dispose of service, publishes or causes to be published in this state in a newspaper or other publication, any advertisement of any sort regarding service which contains any assertion which is untrue, deceptive or misleading shall be guilty of a misdemeanor. It is difficult to see how the advertising quack can escape from the conditions of this statement. It would seem that anyone of them, after June 12th, when this act goes into effect, would be liable to prosecution on the publication of the ordinary advertisements of the medical impostors who infest our cities in such numbers. This act, if enforced, ought effectually to put an end to the vicious and villainous work of the genitourinary and other quacks who have so long imposed upon the public. Following is the act as passed by the last session of the legislature:

(S. B. 35.)

Be it enacted by the Legislature of the State of Washington:

Section 1. Any person, firm, corporation or association who, with intent to sell or in any wise dispose of merchandise, securities, service, or anything offered by such person, firm, corporation or association, directly or indirectly, to the public for sale or distribution, or with intent to increase the consumption thereof, or to induce the public in any manner to enter into any obligation relating thereto, or to acquire title thereto, or an interest therein, makes, publishes, disseminates, circulates, or places before the public, or causes, directly or indirectly, to be made, published, disseminated, circulated or placed before the public in this state, in a newspaper or other publication, or in the form of a book, notice, handbill, poster, bill, circular, pamphlet, or letter, or in any other way, an advertisement of any sort regarding merchandise, securities, service, or anything so offered to the public, which advertisement contains any assertion, representation or statement of fact which is untrue, deceptive or misleading, shall be guilty of a misdemeanor: Provided, that the provisions of this act shall not apply to any owner, publisher, agent, or employe of a newspaper for the publication of such advertisement published in good faith and without knowledge of the falsity thereof.

Passed the Senate January 31, 1913.
Passed the House February 25, 1913.
Approved by the Governor March 6, 1913.

—*North West Medicine.*

THE BOARD OF HONOR AND NEWSPAPER PUBLICITY.

(*From Med.-Chirurg Bulletin.*)

The Board of Honor, which was elected at the December meeting of the Baltimore City Medical Society, should develop into an important factor in upholding the ideals and traditions of the local medical profession. For the present, as was announced in its circular letter to members of the Society, the Board proposes to devote most of its attention to the growing evil of newspaper publicity on the part of the local profession. It is not an evidence of pessimism

to state that this deplorable tendency has for some years been steadily increasing, nor is it, on the other hand, at all utopian to feel that it can in large measure be checked. It is safe to say that no one will be unjustly persecuted by the Board of Honor. Its work will consist in large measure of drawing the distinction between legitimate, useful medical publicity, and the illegitimate form which misleads the public or exploits the physician—usually these two effects are combined.

Everyone knows that the prevention of disease is impossible without the co-operation of the public, that such co-operation presupposes enlightenment of the people, and that no agency is more powerful in such educational work than the newspapers. In other words, every reasoning person must agree that the newspapers should be encouraged to assist in the great work upon which the Medical and Chirurgical Faculty, like other medical organizations, has entered. Through its Committee on Public Instruction, and with the funds which the State so generously appropriated for this purpose, this work of instructing the public is being pushed energetically, and the newspapers have many times given valiant and indispensable assistance in the task. So much for the right sort of medical publicity.

On the other hand, if a newspaper or magazine article tells of some "rare" operation on a distinguished patient from some distant corner of the country—something as "rare" usually as a simple gastro-enterostomy—and if each step of the operation is described, with greater or less grotesqueness and absurdity of terms and ideas, and with frequent digressions to eulogize the wonderful skill and precision of the distinguished surgeon—we have to deal with publicity of an entirely different and distinctly repugnant sort. The same thing is true of articles which, under the guise of educating the public, are so full of inaccuracies and discrepancies that they not only do not teach the public useful facts, but actually delude it, often in a most cruel manner, as when they tell of new and startling "cures" for various diseases. Publicity of the kind which works an injury to the public or which is a means of self-exploitation on the part of a medical man, can have no justification or even extenuation. Aside from considerations of common decency and honesty—what we call medical ethics—such methods are anything but fair to the more self-respecting members of the profession.

It is not always easy for the critic to draw a sharp line between the kind of publicity we have lauded and the kind we have condemned. A common excuse of the self-exploiter is the plea that he is trying to educate the public. Nothing is more certain, however, than that even such great movements as the tuberculosis or cancer campaigns can be carried on with great effectiveness in an essentially impersonal way. This fact was illustrated by the success attending the publication, for over two years, of "Health Bulletins" in the Baltimore *Sun* and the Baltimore *American*. These articles were never signed, being merely labeled as "Issued under the auspices of the Medical and Chirurgical Faculty of Maryland."

After all, the question is largely one of common honesty. Every man, when giving information to the newspapers, knows well enough in his own heart whether he is actually doing so in a purely altruistic spirit or whether he is seeking self-glorification. And everyone knows, or should know, that no newspaper will use his name in connection with an article, of this sort—certainly not repeatedly—if he requests or insists that it be withheld.

It would indeed be deplorable to see our profession commercialized and prostituted by such undignified practices as this we are now condemning. We would soon come to an age in which the most successful man among us would be the shrewdest and most extensive advertiser. Indeed, there are some pessimists who say we are headed in that direction now. Be that as it may, the election of the Board of Honor means that the Society has determined to do what it can to terminate this unethical advertising.

The following action can be commended:

(EDITOR).

BE IT RESOLVED: That the Anne Arundel County Medical Society at its monthly meeting held at Annapolis, October 8, 1912, realizing that the high standing of the medical profession has been lowered in Maryland by the sins of omission or of commission of some of the surgeons and physicians of Baltimore, who have allowed their patients' names, the names of the diseases for which medical treatment or surgical operations have been resorted to, and the name of the physician or surgeons in attendance, and the name of the hospital to which the patient has been taken to be published in the daily press; this being a violation of the Hippocratic Oath, that part particularly referred to reads—"Whatever in connection with my professional practice or not in connection with it, I see or hear in the life of men, which ought not to be spoken of abroad, I will not divulge," and further, that such disregard for medical ethics is a gross violation of the Code of Medical Ethics of the American Medical Association, which we have been particularly charged to guard against the entrance of the unfaithful and the unprepared.

RESOLVED: That we hereby renew our allegiance to the American Medical Association and again endorse and subscribe to the Code of Ethics as outlined by that Association.

RESOLVED FURTHER: That as the surgeons and physicians above described have, in our opinion violated the Code of Ethics of the medical profession we hereby pledge ourselves not to consult with nor allow them to operate on the patients we attend until such time as they shall purge themselves of the medical sin of self-advertising in the public press, and have sworn a willingness to comply with and be governed by the Code of Ethics of the American Medical Association.

RESOLVED FURTHER: That it shall be the duty of any member of the Anne Arundel County Medical Society knowing of a violation of the

Code of Ethics of the American Medical Association by a member of the medical profession in Anne Arundel County, to notify the Board of Censors of the Anne Arundel County Medical Society to investigate the charge, and if found correct to submit a written report to the Anne Arundel County Medical Society at its next regular meeting, and upon the vote of its members, the name of the offender shall be placed on a list, to be known as "The List" whereby the members of the Anne Arundel County Medical Society pledge themselves not to consult with such offender or offenders until the name or names be taken from said list.

Resolved Further: That a copy of these resolutions signed by our President and our Secretary be sent to the Secretary of each of the medical societies and organizations listed in the Medical and Chirurgical Faculty Bulletin with a request that they be read at the next meeting of the society to which the letter has been addressed.

Resolved Further: That a copy of these resolutions signed by our President and our Secretary be sent to the Secretary of the Medical and Chirurgical Faculty of Maryland with a request that they be read before the Board of Councillors of that Faculty at its next meeting.

Resolved Further: That these resolutions are subscribed to in good faith, our desire and our effort is to preserve the high standing and support the Code of Ethics of the regular medical profession now and always.

Thomas H. Brayshaw,
President.

Lewis B. Henkel, Jr,
Secretary.

FAKE CONSUMPTION CURES.

Within the last five years, no less than 500 frandulent "cures" for consumption have been tried upon thousands of victims in the United States, and the exploiters of these nostrums have reaped a clear profit of not less than $50,000,000. This is an estimate made by the National Association for the Study and Prevention of Tuberculosis in a bulletin issued to-day.

The National Association estimates that not less than $20,000,000 is invested in the business of manufacturing and exploiting fake cures for tuberculosis, and that the annual income from these concerns and individuals is $15,000,000. About one-third of this amount is spent for advertising, leaving a profit of $10,000,000 a year, which is "blood money" taken from ignorant consumptives.

Three kinds of consumption cure frauds are distinguished by the Association, the first being the "institute" fraud, where a pseudo-hospital or dispensary is established and the wily "doctor" or "professor" adminsters "treatments" at so much per head. These concerns also carry on a mail order business with great profit. The second group of cures contains over a hundred different kind of drugs and "patent" devices, any of which may be purchased at a drug store. Usually the consumptive is charged from $1.00 to $5.00 for these and the institute "cures," when he could make them up himself in exactly the same form for from one to five cents.

The third group of "cures" includes home-made remedies, which certain self deluded individuals believe will cure tuberculosis. Among them are such things as onions, lemons, coal smoke, pig's blood, alcohol, dog oil, teas of various kinds, and a variety of diets, including goat's meat, clabbered milk and a score of other articles. These are not usually advertised for profit, but are usually given publicity in various ways.

The consumptive is the most hopeful individual in existence when the question of a cure is suggested. The National Association has stated that no specific cure for tuberculosis has been discovered, except the well-tried hygienic-dietetic method of fresh air, rest and good food.

PROFESSIONAL MEN AS CANDIDATES FOR THE SUCKER LIST.

How do these gold brick peddlers know that you are one of that species, a representative of which is born every minute?

This pointed question is asked by John Oskinson, financial editor of Collier's *Weekly*, writing in the Chicago *Tribune*. He answers his question thus:

No sucker fisherman could afford to go on the theory that all are possible suckers and send his bait around indiscriminately. It would cost too much. So to qualify as a real, grown up sucker you must get on a sucker list.

If you are a teacher, a preacher or a doctor you are pretty sure to be tested by some one of the fishermen. After you bite once you are passed along—you become an asset to the whole tribe. Your name is worth anywhere from 10 cents to $10, depending on how readily you bite and the amount of money you have dropped into the pockets of the promoters who have had their chance at you.

The teacher, the doctor and the preacher are ideal suckers, says Mr. Oskinson; their earnings are usually small, their families large, and their sense of duty highly developed. Perhaps you would conclude, therefore, that they ought to be the very ones to keep away from the bait. No; they see the cost of everything which represents a decent existence rising higher and higher, while their income mounts with exceeding slowless or not at all. They will save something—at any cost of self-deprivation. And when that saving amounts to a hundred dollars or more they become susceptible.

Many are so ignorant of business that when they read the sunrise-tinted literature of promoters they actually believe they have a fair chance to obtain 100 per cent in a short time on their investment. Government figures show that last year 525,000 persons lost $120,000,000 to persons indicted for fraudulent use of the mails.

Mr. Oskinson concluded that the only sure way to avoid being caught as a sucker is to stick close to the side of the bank or banker whose business is under the supervision of a state or national government.

THE PRESENT ATTITUDE OF THE NEW YORK CITY DEPARTMENT OF HEALTH IN REGARD TO DIPHTHERIA AND MEASLES.

Following a report made by Dr. Herman M. Biggs, General Medical Officer of the department, the Board of Health has made important modifications in its policy in regard to disinfection in diphtheria and measles. In considering this matter with special reference to terminal disinfection in these diseases, and from the point of view of bringing the practice of the department more in harmony with present scientific thought, several phases of the subject must be kept in mind.

There is no doubt that the isolation which is nominally enforced in tenement houses in the various infectious diseases, is really wholly ineffective so far as the liability of spreading the infection to other members of the household is concerned. At most, it results only in restricting somewhat the intercourse between the patient and the rest of the family, and this chiefly only during the period of acute illness; after this and during convalescence intercourse is usually free. It is possible, however, that the isolation and especially the placarding now practised by the Department of Health with certain infectious diseases, does really tend to prevent the spread of infections in that it restricts the intercourse between the patient and persons not members of the infected household. It is the restriction of intercourse with persons not members of the family which chiefly renders of value the fixing of a definite period of isolation which is finally terminated by disinfection. If the practice of terminal disinfection were entirely abandoned, it seems likely that the enforced isolation of patients during convalescence would be more difficult and less effectual. This applies especially to scarlet fever and diphtheria.

Some distinction should be made, however, between the infectious diseases to be dealt with. In diphtheria it seems rather absurd to insist on terminal disinfection when we know that the danger is far greater from bacillus carriers than from the room.

In measles the danger of infection is undoubtedly greatest in the very beginning of the disease, usually before the diagnosis is made. The exposure during this period is usually free. There is little evidence to show that measles is often transmitted by fomites or by any one occupying a room in which a case of measles has been ill shortly before. The value of terminal disinfection in this disease must be extremely small.

In scarlet fever, the same consideration probably held good, but perhaps there is somewhat greater danger in this disease than in the case of measles and diphtheria.

In accordance with these statements, therefore the Department of Health now adopts the following procedures in cases of diphtheria and measles:

In diphtheria, experience has shown that diphtheria bacilli, as a rule, die out in a short time after drying and exposure to light, and that when a person suffering from diphtheria has completely convalesced, and the throat is free from diphtheria bacilli there is little likelihood of any infection from the sick room. Conditions, however, are quite different when the patient is removed from the sick room at the height of the illness, or when death occurs at this time. Under these conditions, it is probable that fresh discharges are present, and that these contain living diphtheria bacilli.

The action of the department, therefore, depends on the manner and the time when the case is terminated.

(1) If the patient completely convalesced in the sick room, the department does not perform disinfection, but insists that the apartment be thoroughly cleaned and aired. After recovery of the patient at home, the woodwork of the room in which the patient has been isolated must be thoroughly scrubbed with hot soda solution (one-half pound to three gallons)and the room thoroughly aired for at least twenty-four hours before being again occupied. Goods will be removed to the Department of Health Disinfection Station, for sterilization, and will then be returned.

(2) If the patient is removed from the sick room during the height of the illness or dies at this period, the room with its contents will be disinfected, and all goods exposed to the contagion will be removed to the Department of Health Disinfection Station, and returned after disinfection by steam. Bedding or other infected goods from such infected rooms must not be taken from the house or thrown into the street by the owner. After the goods have been removed, and the premises reinspected, if conditions are found satisfactory, the inspector will issue the necessary school permits. Children in the family are not allowed to attend school until they have received a certificate from the Department of Health.

In measles, also, experience has shown that there is little likelihood of any infection from the sick room or when the person suffering from measles has completely convalesced. The main danger is from fresh discharges. So far as disinfection is concerned, therefore, the action of the department depends upon the manner and time when the case is terminated.

The method of procedure adopted by the department, is, therefore, similar to that in the case of diphtheria, with the exception that goods are not removed for disinfection after the death or recovery of cases of measles.—*New York Health Bulletin.*

NOTABLE FEATURES ON THE PROGRAM OF HYGIENE CONGRESS.

The Fourth International Congress on School Hygiene, and the first to be held in America, at Buffalo, August 25-30, according to an announcement of the executive committee, will be by far the most elaborate effort yet made in this country toward getting the problem of school hygiene before the world. The first International Congress was held at Nuremburg in 1904, the

second at London in 1907, the third at Paris in 1910.

The objects of the Buffalo Congress are:

(1) To bring together men and women interested in the health of school children.

(2) To organize a program of papers and discussions covering the field of school hygiene.

(3) To assemble a school exhibit representing the best that is being done in school hygiene.

(4) To secure a commercial exhibit of practical and educational value to school people.

(5) To publish the proceedings of this Congress and distribute them to each member.

In addition there is a plan on foot to effect a permanent organization for the purpose of carrying out school hygiene reforms in all the individual communities in this country, if not all over the world.

One of the interesting features of the Congress will be the presence of delegates representing the community interest in school hygiene, including those appointed by mayors and governors, by women's clubs, by school boards, boards of health, by mothers' congresses and charity organization societies and boards of trade. Their help is being solicited with a view of organizing the community in a campaign of school hygiene reform.

The program committee announces a program of two hundred and fifty papers and fifteen symposiums, taking up hygiene from the following points of view:

I. The hygiene of school buildings, grounds, material and up-keep.

II. The hygiene of school administration and schedule.

III. Medical, hygienic and sanitary supervision in schools.

The contributors to the program make up a notable list of speakers, college presidents and professors; state, city and county commissioners of education; teachers and superintendents of public schools, medical college professors; state, county and city health officers; physicians in private practice, engineers and architects.

AN ALLY WORTHY OF CONFIDENCE.

It is going on toward 20 years since Gray's Glycerine Tonic Comp. was first placed at the service of the medical profession. During all this period Gray's Glycerine Tonic Comp. has maintained the standards that first attracted attention and the busy practitioner has ever found it an ally worthy of confidence. It never disappoints and in the treatment of atonic conditions, particularly of the gastro-intestinal tract, it is often the one remedy that will produce tangible and satisfactory results. The physician who does not use it in his practice is denying his patient many benefits that can be obtained in no other way.

THE GOOD OLD SUMMER TIME.

The coming summer season will no doubt produce its usual crop of cases for physicians, peculiar to the season.

Insect Bites, Bee Stings, Sunburn and its frequently following Dermatitis, Strains and Small Joint Injuries from base-ball and other sports. Sprained Ankles, Ecchymosed Eyes, Infected Wounds, etc., will demand the first attention of the physician and a second thought will be a suitable remedy.

All inflammatory conditions, whether from infective or traumatic causes, rapidly subside when dressed with Antiphlogistine. Its convenience of application with the assurance of satisfactory therapeutic results, makes it almost indispensable in emergency work.

EPILEPSY.

Since Brown-Sequard formulated his celebrated mixture of the bromides they have everywhere been regarded as the "sheet anchor" in the treatment of epilepsy, and whatever progress has been made has only been in the line of additions to these efficient remedies. Hammond ("Diseases of the Nervous System") says: "The treatment of epilepsy rests solely on experience. Among medical remedies the bromides stand pre-eminent and should be thoroughly tried in every case." He adds: "Herpin, several years ago, called attention to the salts of zinc in the treatment of epilepsy. I have used the lactate and, still more recently, the bromide, with very definite beneficial results." (pp. 714-716).

Sir Lauder Brunton says of the bromide of potassium: "It is especially beneficial in epilepsy, and by its use the convulsions can almost always be lessened, if not entirely stopped." (Therapeutics, etc., p. 521).

Allen McLane Hamilton says of the treatment of epilepsy: "No general remedies have been of so much service as the bromides, especially those of sodium, ammonium and potassium, and since their introduction about twenty years ago, the number of cures have greatly increased and the prognosis improved, as our knowledge, derived from experimental theapeutics, has broadened." (Reference Hand Book, Vol. I., p. 708).

Since Trousseau announced the great efficacy of belladonna in the "Petit Mal" it has held high rank as a valuable addition to the bromides. Of cannabis indica it is well said "In morbid states of the system it has been found to cause sleep, allay spasms, compose nervous disquitude and relieve pain." In this respect it resembles opium, but it differs from that narcotic, in not diminishing the appetite, checking the secretions, or constipating the bowels. (U. S. Disp. p. 351).

The literature upon this subject is so vast that columns might be filled with quotations from standard authortiies only, but we make the briefest reference to these with a view of calling attention to NEUROSINE (a most efficient Neurotic, Anodyne and Hypnotic) an elegant Preparation of the following ingredients: C. P. Bromides of Potassium, Sodium and Ammonium, Bromide of Zinc, Pure Extracts Belladonna, Henbane and Cannabis Indica, Extract Lupuli, Fluid Extract Cascara Sagrada, with Aromatic Elixirs.

THE TEST OF A TONIC.

The field and function of a systemic tonic is generally understood and appreciated by both physician and patient. To stimulate, whip or

goad the vital processes is not to "tone", but, on the contrary, to ultimately depress. A real tonic is not a mere "pick-me-up," but some agent that adds genuine strength, force and vigor to the organism. The genuine tonic is a builder or reconstructor of both blood and tissue. Any agent which will increase the power of the blood to carry and distribute the life-giving oxygen is a tonic in the best and truest sense of the word. Iron in some form is an ideal tonic, as it builds up the vital red cells of the blood and the hemoglobin which is their essential oxygen-carrying element. Of all forms of iron, none is quite as generally acceptable and readily tolerable and assimilable as Pepto-Mangan (Gude). It creates appetite, tones up the absorbents, builds the blood, and thus is a real tonic and reconstructive of high order. It is especially desirable because of its freedom from irritant properties, and because it never causes a constipated habit.

State News

The following new appointments have been made to the State Board of Health: J. L. Pyle of Chester, J. H.. Shipper, Garrardstown; J. A. Rusmisell, Buckhannon; W. J. Davidson, Parkersburg; H. A. Brandeberry, Huntington; George P. Daniel, Marshes; G. D. Lind, Greenwood; and S. L. Jepson. The latter has been designated as secretary, to succeed Dr. H. A. Barbee, who has served in this capacity very acceptably for many years.

* * *

At a joint meeting of committees of the Mercer, McDowell and Mingo Medical Societies, held June 27th, it was decided that the date of the next annual meeting of the State Medical Association in Bluefield, should be fixed for the second week in May. The above three societies are to be the hosts of the Association. They are already planning for a successful meeting.

* * *

Dr. and Mrs. C. O. Henry announce the marriage of their daughter, Agnes Lee, to Mr. Edwin Victor Duffy, on Saturday, June 21st. Editorial congratulations to our very efficient ex president and wife.

* * *

Dr. Rader of Huntington has been confined to his home for several weeks with asthma, but is again able to be out.

* * *

Huntington has recently had several cases of small pox.

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Hundred and Littleton, Wetzel county, have recently had an epidemic of small pox. The cases were generally mild, and hence a difference among the local physicians as to the character of the disease, one holding it to be varicella. The editor has long noted that when local physicians differ on a diagnosis between these diseases, it is small pox. Don't forget this. An error may be fatal to many people. In case of doubt, *shut in tight until an expert opinion can be had.* If one case occur in an adult, it almost certainly is small pox. Varicella *may* occur in the adult, but is so rare an event that no chances should be taken.

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Drs. Harriet B. Jones, F. L. Hupp and family, and Dr. J. E. Burns, all of Wheeling, sailed for Europe in June. Drs. Hupp and Burns expect to attend the International Medical Congress in London.

* * *

Dr. W. C. Etzler was recently chosen as Heath Commissioner of Wheeling, and Dr. Marschner as Milk Inspector. Dr. Etzler succeeds Dr. W. H. McLain, who occupied the office for six years, and made more than a local reputation for efficiency in this very important position.

* * *

Cabell county society recently elected these new members, Dr. Hohman Barnard and Dr. James T. Baker.

Henry, oldest son of Dr. O. H. Hoffman of Thomas, has been undergoing treatment for an injured knee. Too much football.

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Dr. J. B. Johnson lost his wife recently from valvular heart disease.

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Dr. J. McArthur Spinks, who took Dr. Brown's place, has just been married to Miss Stella Gorrell.

* * *

Dr. Ford Huff of Parsons was somewhat indisposed during June. His father has been attending to his practice. The senior Dr. Huff is vigorous, alert and active, though over 80. He owns a curiosity in the shape of a carpenter's saw, with which he removed the first leg amputated on the Confederate side during the Civil war.

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Dr. Daniels is building several houses in Elkins.

* * *

Dr. W. B. Sager has been spending his vacation in Virginia.

* * *

Dr. Hare of Coketon leaves next month for Baltimore.

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Changes of location: Dr. Brown of Hambleton to Georgetown, South Carolina; Dr. C. C. Peters from McComas to Princeton; Dr. E. D. Rucker from Parkersburg to Gray Summit, W. Va.; Dr. F. Raphael from Fairmont to Keyser; Dr. B. F. Matheny from Meadowbrook to Clarksburg.

Society Proceedings

LITTLE KANAWHA AND OHIO VALLEY SOCIETY.

PARKERSBURG, W. VA., June 9, 1913.

Editor W. Va. Med. Journal:

The regular meeting of the L. K. & O. V. Medical Society was held at the Chancellor Hotel June 5.

Prior to the meeting the members enjoyed a pleasant hour around a choice supper, in social intercourse, President Link presiding. Several out of town members were present, viz., Drs. Young and Boyers of Sistersville, Parsons of Hanna, Wood Co.; and Douglass of Petroleum. After doing justice to the repast, the Society met. Dr. Dotson of Spencer, having completed details in his application for membership, made last month, was admitted.

Dr. Parson's application for membership referred to Board of Censors, recommended and he was admitted. Dr. L. A. Martin of this city, a former member, was readmitted to membership. Dr. Prickett, for reasons of ill health, withdrew from the society. After which the essayist of the evening Dr. G. D. Jeffers, read a carefully prepared paper on injuries of the hand and their treatment, especially emphasizing the need of conservation in treatment so to preserve this most important organ, particularly in those who have to earn a living by manual labor. This was followed by a general discussion by members. Dr. Stout recited histories of many cases where good results were obtained from his large experience as surgeon to the B. & O. R. R., by conservative measures if the circulation was good. He insisted on free drainage and asepsis. Dr. McNeilen and others reported cases. Dr. Sharp reminded the younger members that in preantiseptic days surgeons obtained good results from conservation. He cited two cases, one prior to the Civil war, of gunshot injury of fore arm. Under the care of his father, Surgeon Sharp, U. S. A., another of compound comminuted fracture of leg with shell wound under his care in U. S. Naval Hospital, Norfolk, in 1863; also at the well known case of Rear Admiral Robley Evans, who was desperately wounded at the capture of Fort Fisher and refused to have his leg amputated. He recovered at the same hospital under desperate conditions and made a reputation in later years af "Fighting Bob Evans", able to fight and dance both.

Those who attended the meeting at Charleston reported it as one of the most successful meetings ever held. The attendance large, the sessions held in the Capitol, in different sections, were fully attended. This plan of sections proved a success. The new section on diseases of the eye, ear and throat was a great sucess. The banquet at the Kanawha was greatly enjoyed. The profession in Charleston deserve great credit for the way the society was entertained; and, lastly, we were honored by the presence of so many distinguished gentlemen from adjoining states who all contributed papers and discussions of value. In truth is was on a small scale a brief post graduate course

Society adjourned for the summer months.

W. H. SHARP, *Treas*

CABELL COUNTY SOCIETY.

HUNTINGTON, W. VA., June 14, 1913.

Editor W. Va. Medical Journal.

The regular monthly meeting of this society was held last Thursday evening in the Hotel Frederick.

The evening was devoted to a discussion of Dr. J. A. Guthrie's address "Remarks Upon Endometritis."

Dr. H. W. Keatley was admitted to membership by transfer from the Kanawha Co. Medical Society.

Drs. B. L. Hume and George R. White, both of Barboursville, were admitted to membership.

Fraternally yours, JAMES R. BLOSS, *Sec'y.*

HUNTINGTON, W. VA., **July** 14, 1913.

Editor West Va. Medical Journal:

The regular monthly meeting of the society was held on the evening of the 10th in the Hotel Frederick. There was a fair attendance and the evening was taken up with a discussion of Dr. J. C. Schulz't paper on "Vaccine Therapeutics."

Two applications for membership were presented to the society.

Fraternally yours, JAMES R. BLOSS, *Sec'y.*

THE MERCER COUNTY SOCIETY

The meeting was held at Mercer Springs, West Virginia, Friday afternoon, June 27th, at three o'clock. Program: Drs. J. C. Jett. G. L. Tobb, E. W. Horton, S. L. Johnson to be voted on for membership in the Society.

Extra-Genital Chancre------W. H. Wallingford
Function of the Fallopian Tubes----------
----------J. Percy McElrath
Report of Case----------I. W. Taylor
Anaesthetics----------J. M. Quinn

Another meeting of this Society was held in Bluefield on Thursday evening, July 31st. The following program was prepared: Drs. J. C. Jett, G. L. Todd, E. W. Horton, S. L. Johnson, J. J. Davidson, to be voted on for membership in the Society.

Cellular Determination of Sex----------
----------Percy J. McIlrath
Report of Case----------I. W. Taylor
Our Society, What It Is and What It Should Be----------S. R. Holroyd
Lunch.

DR. ST. CLAIR, *Sec'y.*

FAYETTE COUNTY SOCIETY.

This Society met on June 26th, in Thurmond. Papers were expected by Drs. Fox, Goodman and Dupuy. H. C. SKAGGS, *Sec'y.*

Medical Outlook

CONSTIPATION.—First try to ascertain what is the *cause* of the constipation. In this connection, I wish to state that after an examination and observation of these cases, extending over twenty years, I am forced to believe that the majority of them have as a basis a *constitutional derangement.* In trying to solve the problem, it was observed that many of the patients were of a rheumatic or gouty diathesis. Acting upon this hypothesis, I have treated them by combating this special trouble and have found that in many cases the constipation would take care of itself.—Joseph M. Mathews, M.D.

TREATMENT OF SMALLPOX BY TINCTURE OF IODINE.—Newell (*Indian Medical Gazette*) using iodine early in confluent cases, found that it materially affected the development of the pox and prevented the "pitting" of smallpox which is so horrible a result in confluent cases. It is because it has proved itself so valuable an agent in the prevention and lessening of "pitting" that he thinks he is justified in writing this early note to enable his brother practitioners to use a valuable therapeutical agent which will modify the disease and save the patient from disfigurement. He used the ordinary B. P. tincture of iodine, and so far has limited its use to the above-mentioned parts. The application can be applied two or three times a day for a few days only and then totally discarded. The colored scabs and epithelium all come away, and, in many cases treated early, leave no trace of a scar even in severe confluent cases. Both Indian and European cases gave success.

The following advantages may be claimed for this treatment: (1) Lessening and prevention (if applied early) of "pitting,' (2) Modification of the disease. (3) Lessening of pain and fever. (4 Disinfection of the parts where it is applied and thereby lessening the chances of aerial infection from epithelial debris. (5) A useful method of lessening the spread ot the disease among natives who refuse to go to hospital; as, if one can disinfect the exposed parts, arrangements can be made to disinfect articles of clothing covering the other parts of the body. (Before discharge from hospital his practice has been to have all patients washed or bathed in a carbolic solution.) (6) Lessening of mortality in confluent cases, since it follows if the "pox" on exposed parts mentioned can be thus abated there is so much lessening of toxemia. It seems to Newell there is further scope in this treatment to see how far the mortality can be reduced by alternate applications of the iodine to different parts of the body, so that all parts affected by the eruption can be so treated.—*Urologic and Cutaneous Review.*

PHYSIOLOGICAL ANTIDOTE TO PHENOL POISONING.—Dr. H. A. REESE, of Bisbee, Ariz., in *The Arizona Medical Journal,* reports a successful result after the patient had swallowed an ounce of phenol. Stomach was washed with water and dilute alcohol, after which the respirations were shallow and irregular, pulse 174. He then sought an antidote to the effects of the poison, viz., shallow, irregular respirations; rapid, thready pulse; pupils contracted to pinhead size; the skin bathed in a cold clammy perspiration, and the mouth and fauces pouring out quantities of mucus.

Having to combat such a condition, what drug would you select to do the work?

I selected atropine sulphate. Atropine is a dependable drug. We know its effects to a nicety. My experience in this case and others, which I will not now take your time to report, leads me to make the assertion that atropine is the most nearly specific physiologic antidote for phenol poisoning of which we know today.

Death from phenol is generally due to paralysis of the respiratory center. Atropine is our best respiratory stimulant. Phenol contracts the pupils atropine dilates. Phenol produces a blue, cold and clammy skin; atropine makes the skin red, warm and dry. Phenol causes excessive secretion from the mucous glands of the nose, throat and pharynx; atropine renders the nose and throat dry. Phenol depresses the heart; atropine makes the work of the heart easier by dilating the superficial capillaries. Phenol kills, but atropine makes alive again. Where there is "a ghost of a show" atropine given to effect will keep the patient alive until the poison is eliminated. Give a good dose by hypodermic injection, and repeat every hour if necessary until the pupils dilate, or until you see signs of returning consciousness.

Dr. A. C. Matthews, Napa Cal. State Hospital reports operation on a patient, with the following "findings."

Duration of the operation, three hours and ten minutes. The following is a list of articles removed from the stomach:

180 Wire Hair Pins; 55 Open Safety Pins; 14 Closed Safety Pins; 21 Broken Safety Pins; 5 Prune Pits; 23 Buttons; 3 Collar Buttons; 13 Nails; 3 Screws; 2 Screw Eyes; 4 Tacks; 1 Staple; 5 Parts of Teaspoon; 425 Broken Pieces of Hairpins and Wire; 1 Piece of Thread; 104 Unclassified Odds and Ends, mostly metal; 9 Parts of Combs; 280 Small Pins; 1 Piece of String. Total, 1149. Weight, 1 lb. 2oz.

The stomach was not washed out after the operation, in order to avoid all additional irritation, and for several days all feeding was per rectum. By June 5 the patient was up and about the ward, apparently in good condition.—*Critic and Guide.*

INSANITY IN CHILDREN.—C. Holmes, in the *Medical Record,* states that the anatomically and physiologically unstable nerve centers of the vigorous growing child offer a vulnerable field on which the maladjustments and abuses of a crowded, hustling city life may do irreparable damage. The ability to recognize the abnormal from the normal mental excitement, to appreciate that a certain form of unrest is developing as a direct result of distressing bodily or home conditions, to decide whether or not the child's conduct is due to his being fundamentally defective, to recognize the excitement of fatigue from overstudy—these are some of the things which should constitute the equipment of prophylactic workers in the homes and in the schools. Exceptional opportunities for the observation of incipient mental diseases, especially among children, are furnished by every large general hospital, but unless the hospital is equipped with special wards, special trained nurses, and medical men for the care of such patients, these cases commonly pass through unnoticed.

The West Virginia Medical Journal

Published Monthly
by
The W. Va. State Medical Association

Under the Direction
of the
Committee on Publication.

COMMITTEE ON PUBLICATION:
S. L. JEPSON, Chairman.
L. D. WILSON. G. D. LIND. C. A. WINGERTER.
Entered as second-class matter August 10, 1906, at the Post Office at Wheeling, W. Va.

Vol. 8—No. 3. WHEELING, W. VA., SEPTEMBER, 1913

Subscription Price $1.00 per Year
Single Copies 15 Cents.

Original Articles

SURGICAL TREATMENT OF GOITER.

Dr. Andre Crotti, Surgeon to Grant Hospital and Children's Hospital, Columbus, Ohio.

(Read by invitation before the West Virginia State Medical Association, Charleston, W. Va., May 23, 1913.)

Despite the enormous work done in the last ten years in the field of the thyroid pathology, many important problems are still far from being solved. From this important work one conclusion can be safely drawn—that is, the necessity for us to possess a thyroid gland and if possible a normal one. Another fact has also been pretty well established—the absence or the insufficient secretion of the gland causes myxedema or hypothyroidism. The reverse of this proposition, namely, that the hyperfunction of the thyroid causes hyperthyroidism, has not yet been definitely accepted, although this theory counts many firm believers. It is not my intention to take up in this paper such a discussion. I simply want to submit to you a few considerations in goiter surgery, based upon 250 operations for goiter.

Goiter may become objectionable, namely, for two chief reasons—first, on account of mechanical, and, second, on account of thyrotoxic disturbances.

The relations of the goiter with the trachea are so intimate that any abnormal enlargement of the thyroid will soon have a marked effect on the windpipe, and the more intimate the relations are between the goiter and trachea the more marked will be the interference with respiration, because, in that case, the trachea will undergo a change in its form and its anatomical situation; in other words, it will be compressed and displaced. It is not always the largest goiters which give the most symptoms. I have seen goiters of small size but firmly adherent to the windpipe give the worst symptoms of suffocation, when goiters of infinitely larger size, but more or less deprived of firm adhesions with the windpipe, did not give any symptoms at all.

Adhesions between windpipe and goiter are developed to the maximum in inflammation and malignant degeneration. In the only two malignant goiters which I have operated upon the windpipe and other important organs of the neck were imbedded in the tumor, so that the operation was extremely difficult and in both cases proved fatal. One died 24 hours after the operation from heart collapse (the vagus nerve on one side was involved in the tumor and was resected with the common carotid). The second patient died three days after the operation, following an air embolism, due to tearing of the subclavian vein at the time of the operation. Both were partly intrathoracic goiters. It is, indeed, a great pity that a diagnosis of malignant goiter is not made, as a rule, at an earlier period, because as long as the cancer has not invaded the capsule it can be removed easily and with great chances of prolonged life. Therefore the medical profession should always bear in mind the possibility of a can-

cerous degeneration, in order to give to the patient the earliest possible chance of an operation.

A goiter developed in the isthmus more than any other goiter is apt to cause dyspnea and suffocating spells because of the intimate relations between the isthmus and the windpipe. We know that the isthmus is fixed to the cricoid cartilage by a ligament. Therefore, a goiter developed in the isthmus has no chance to become loose from the windpipe, consequently the mechanical symptoms will be marked and will show up early.

A goiter developed in the lower pole, especially at the angle formed by the isthmus and the lobe, is also very apt to give marked mechanical symptoms; but the most dangerous variety of goiter is the intrathoracic goiter. In the majority of cases this form of goiter is formed by a prolongation of a suprasternal goiter extending into the thorax to a greater or less degree. Less frequently they are from the start entirely intrathoracic. These goiters are, as a rule, developed from the isthmus, but more frequently from the lower pole of the thyroid, and every goiter developed in that region which does not grow laterally and outward has a tendency to become intrathoracic. Choked between the superior opening of the thorax, formed by the spinal column, first rib and manubrium sterni, this goiter compresses the large vessels and the windpipe. In a later stage, when this goiter has passed the superior opening of the thorax and has become entirely intrathoracic or mediastinal, the symptoms of compression may be partly relieved for the time being, because the goiter has more room to spread out, but as the goiter grows and becomes adherent to the neighboring tissues and as it loses to a greater extent its up-and-down movement, symptoms of compression become more and more marked. One must always become suspicious when there is a disproportion between dyspnea and the size of the external goiter. In that case one must look for a prolongation into the thorax. Collateral circulation on the thorax, percussion and X-rays are of great importance for diagnosis. Intrathoracic goiter more than any other goiter is apt to cause what we call the *goiter heart.*

Thyrotoxicosis may develop in patients whose thyroid gland has previously been entirely normal, or in one previously affected with a goiter, whatever it may be, colloid, cystic or malignant. In the first case the exophthalmic goiter is called *primary;* in the second case it is called *secondary* or *Basedowified* goiter.

The exact distinction between the primary and the secondary exophthalmic goiter is, in certain cases, difficult and sometimes impossible. Of course, in a great many cases the distinction is easy. Take, for instance, a young nervous woman, who after an emotion, worry or overwork develops a rapid heart action, palpitation, tremor, insomnia and exophthalmos, with Graefe, Stellwag and Moebius symptoms and enlargement of the thyroid gland with vascular symptoms. Nobody will hesitate; that is a primary exophthalmic goiter. Take, on the other hand, another patient who has had for many years a cystic or colloid goiter which never gave him very much trouble. Suddenly, without any apparent cause, patient becomes nervous, complains of palpitation, tachycardia, tremor, exophthalmos, etc. Again the diagnosis is easy; that is a secondary exophthalmic goiter. But these things are not always so simple, and there are cases, indeed, of secondary exophthalmic goiter where the thyrotoxic symptoms have taken such a development that it is not always possible to say offhand if the case is a primary or secondary one. Primary exophthalmic goiter shows a diffuse enlargement of the thyroid; the consistency of this gland is hard, surface is finely granular, vascular symptoms are very marked. In secondary exophthalmic goiter the surface of the thyroid is more coarsely lobulated; it does not have the same smoothness in surface and one lobe is apt to be very much larger than the other one.

The exophthalmic goiter is, above all, a vascular goiter. This feature has been noticed by every one who has been doing work in this line. The gland shows expansive pulsation and the arteries, especially the superior thyroid arteries, are largely dilated and pulsating. All over the gland and all over the arteries there is an intense systolic, sometimes continuous murmur. The veins in the neck are dilated and show a venous pulse. The intensity of the vascularization is in proportion with the inten-

sity of the disease and the cure takes place in the proportion that the vascular symptoms disappear and in cases which have been operated on and which show a relapse, the severity of the relapse is in proportion with the intensity of the vascular symptoms.

Lately Caro, Kocher and a few other authors have emphasized the importance of a methodical blood examination in Basedow's disease, and claim that important information can be gotten in such cases. This blood examination has been made systematically in my last 200 cases. In Graves disease blood is characterized by a leukopenia, hyperlymphocytosis and a hypopolynucleosis. These findings are in relation to the severity of the disease. A diminution of the red corpuscles and of the haemoglobins is, as a rule, not found in Basedow.

We consider as normal a blood which contains about 5,000,000 red corpuscles for a man and 4,500,000 for a woman, 6,000 to 9,000 leukocytes, 70 to 75% polynuclears, 20 to 25% lymphocytes, 3 to 5% large mononuclears and 1 to 3% eosinophiles and ½% mast cells. Consequently we will have a leukocytosis when the number of leukocytes goes above 9,000 and leukopenia when this number is below 6,000. A hyperpolynucleosis will be found when the number of polynuclears goes above 75% and a hypopolynucleosis when this number goes below 75%; a hyperlymphocytosis when the number of lymphocytes goes above 25% and hypolymphocytosis when the number goes below 25%. Eosinophiles are sometimes found increased in Basedow disease, but this is not a constant finding and has no special clinical diagnostic value. In Grave diseases polynuclears are constantly found diminished, in a more or less degree. The lowest rate I have found is 28%. On the other hand, lymphocytes and mononuclears are increased. The highest rate I have found is 65%. The total number of leukocytes is diminished, therefore leukopenia is present. The lowest rate found was 3,000. In form frust and in thyroidism the same findings appear, but on a smaller scale. Polynuclears vary from 55 to 75%; lymphocytes from 28 to 35%.

These findings are of good diagnostic and prognostic value. In doubtful cases, where the diagnosis of exophthalmic goiter is not certain, a slight leukopenia, lymphocytosis and hypopolynucleosis will be of great help in deciding whether we have to deal with Graves disease or not. The same for the prognosis—a marked leukopenia, high lymphocytosis, a marked hypopolynucleosis will show that the case is a very serious one. After the operation the return to normal of the blood formula is one of the best signs for cure. The lymphocytes gradually decrease in number and the polynuclears increase in proportion.

This formula of the blood in Basedow disease is, according to Kocher, the direct result of the thyrotoxicosis. He thinks that the thyroid directly throws into the blood stream an increased number of lymphocytes, and these views are upheld by the results of Potorufssky's experiment. He says that after total removal of the thyroid in dogs, the small lymphocytes entirely disappear from the blood. These views, too, are corroborated by the fact that thyroid feeding and intravenous injections of thyroid extract are always accompanied by a lymphocytosis and a hypopolynucleosis. Finally, the change in the blood formula of Basedow patients after the operation and its return to normal is a strong indication that the Basedow blood formula is dependent on the thyroid pathology.

But lately other experiments and other clinical observations have a tendency to prove that the lymphocytosis, hypopolynucleosis and leukopenia are not due altogether to the thyroid changes, but may be more dependent on alterations of the thymus. Against such views I could cite two of my fatal cases, in which the blood formula was normal, although both patients had very large thymus, revealed by a postmortem.

It is more or less universally considered today that the suprarenal bodies produce epinephrin, and that this adrenalin reaches the blood and is used to maintain the tonicity of the vascular system. Experimentally, it has been found that the blood coming from the suprarenal veins contains epinephrin, and conclusions have been drawn that the blood contains more or less adrenalin, and that this epinephrin varies with pathological conditions.

An intravenous injection of thyroid products causes a peripheric adrenalinaemia, and Gottlieb claims that the products of the

thyroid gland intensify the secretion of adrenalin. This seems to be in contradiction to the fact that, in Basedow disease the blood pressure, as a rule, is under normal.

If hyperthyroidism is really the cause of Graves disease, in that case we should find in exophthalmic goiter an increase of epinephrin content, and this is not at all the impression I have gotten from the methodical blood examination of my patients, so far as the epinephrin content is concerned. The test method I have adopted is the Ehrman's method. This method consists in enucleating the eye of a frog, if possible the rana esculenta, and plunging this eye in the blood serum of the patient. The time which elapses from the moment in which the eye has been put into the serum to the moment the pupil reaches the maximal dilatation is carefully noted, and as a scale has previously been made of different solutions of adrenalin, showing the length of time that the given solution of adrenalin takes to dilate the pupil to its maximum, it is therefore easy to find out the quantity of epinephrin contained in the given blood serum. This method, of course, is not an accurate one. Another objection which can be raised is that it is not certain that the dilatation of the pupils is due to the epinephrin content; it may be due to sympathetico-tonic substances which belong to the same class as the adrenalin. Nevertheless, I have systematically made such investigations and found that, indeed, in many cases of severe Graves's disease, the epinephrin content of the blood was increased; but in other cases just as severe the epinphrin content was very slight or absolutely negative. Therefore I have not yet been able to draw any practical information from these investigations. It has been asserted that a hyperlymphocytosis combined with the absence of epinephrin in the blood was of a very bad prognosis. In going over my cases I have not been able to convince myself that this proposition was true. I will continue further investigations in that line.

One of the complications which I dread the most in Graves disease is the thymus hyperplasia. Attention has been brought to this subject lately, but no great information has been gained, although there is considerable activity in this field of research. Some authors claim that thymus hyperplasia in Graves disease is of frequent occurrence, and statistics of fatal cases in which post-mortem has been held show that thymus hyperplasia has been found in 75% to 80% of the cases. I have given this subject considerable attention in the last four years, and I have come to the conclusion, too, that thymus hyperplasia combined with Graves disease is more frequent than expected.

As for the thyroid, we may divide the troubles caused by the thymus into mechanical and thymotoxic ones.

Mechanical disturbances are chiefly due to pressure. The thymus presses on the windpipe to such an extent that death may follow from suffocation. In the five cases I reported not very long ago in the *Journal of the American Medical Association* death in two cases was due to mechanical interference of the thymus on the windpipe. The thoracic portion of the trachea in both cases was manifestly compressed, and the symptoms before death were unmistakably a picture of intense dyspnea. Patients a few hours after the operation woke up, fighting for air in such a way that several nurses could hardly hold them in their beds, and they died a few moments after from suffocation. Post-mortem showed in both cases a very large thymus compressing the windpipe. Only a few days ago I had a similar experience. A physician with Graves disease secondary to a pre-existing colloid goiter came to me for operation. Two large diffuse colloid goiters, developed in the inferior poles of each lobe, were found located entirely in the thorax. The operation consisted in the removal of these two intrathoracic goiters, leaving a portion of the gland on each side, amply sufficient for physiological purposes. The operation went on smoothly, although difficult on account of numerous adhesions. Patient came out of the anesthetic easily, talked; his voice was normal. A few hours after, while sleeping, he suddenly woke up and said that he was choking. The dressing was cut loose and the patient soon recovered from the choking spell. When I arrived and saw him his pulse was regular, strong, respiration not impaired. Half an hour after he had a similar choking spell, with such intensity that after fighting for air he soon dropped back in his bed pulse-

less, cyanotic, pupils were widely dilated, respiration had stopped. A prompt tracheotomy was fortunate enough to revive the patient and he is now in very good condition. Nothing abnormal was found at the time of the tracheotomy which could explain a pressure on the windpipe. The only explanation is a sudden thymus enlargement following operation. This thymus was revealed before the operation at the X-ray examination by a large shadow situated in the mediastinal space and extending upward to the manubrium sterni.

Besides this mechanical interference it is not presuming too much to say the thymus has thymotoxic influences which darken the prognosis of Graves disease to a considerable extent. These thymotoxic conditions seem to be corroborated by the clinical and experimental facts. I dwelt at length on this subject in my last article on "Thymic Tracheostenosis and Thymus Death," published in the *Journal of the American Medical Association.* The point which I wish to emphasize is the following: In a given case of Graves disease before operating the surgeon should try to ascertain by every means if the case is complicated with thymus hyperplasia or not, and one of the best means we have at hand so far is the X-ray examination. In the majority of cases the diagnosis can be made if one trains himself to read carefully an X-ray picture. I have made a practice, up to the present date, whenever I found a thymus hyperplasia, to postpone the operation until the patient has had an X-ray treatment on the thymus region long enough to show a change in the thymus shadow.

So far as the treatment of the exophthalmic goiter is concerned the concensus of opinion is not yet made between surgeons and internists. It is still common to find that the surgical treatment is considered by many medical men as the last resort, a means to fall back on when everything else fails, when cachexia reaches its last stage or when death is imminent. Indeed, this "rescuing" surgery is not unfamiliar to us, as we have been up against it in other fields, appendicitis, cholecystitis, etc., and we know with what disastrous results. As long as medical men who see these cases first will procrastinate and as long as operations will only be resorted to when the case is more or less hopeless, the mortality can be nothing else but heavy. Basedow patients are so fragile that a slight intervention may prove serious or fatal. Their blood formula is disturbed; their gastrointestinal tract and nervous system have lost their normal equilibrium; their metabolism is imperfect. In advanced stages of the disease secondary changes in the heart, kidneys, liver, etc., are so far extended that not only *restitutio ad integrum* is impossible, but any surgical interference is most dangerous. Any way, in such cases, if the operation is successful the results will only be incomplete and unsatisfactory.

Fortunately the medical profession is every day becoming more and more convinced of the insufficiency of the medical treatment, and men of great repute are agreeing with Barker, who says: "Today the treatment of Graves disease must be transferred from the internist to the surgeon. Graves disease does not belong to the medical clinics any more, but to the surgical." Kocher is of the same opinion and advocates the operation in every case where the vascular symptoms are present, even in the early development of the disease. In that case the operation is practically without danger. Mayo, too, is of the same opinion, advocating the ligation in early cases and the resection in more advanced cases. On the other hand, a few internists claim that surgical treatment in Graves disease should never be resorted to.

Between these two extreme opinions it seems to me there is a place for a happy medium. We must not forget that there are cases of Basedow which get well without surgical intervention. But unfortunately this number is small. As Moebius said, "We must operate neither too soon nor too late." Some authors have given limits of from six weeks to six months, during which time the medical treatment should be attempted; if this is not successful, then the operation should be undertaken. It is certainly difficult to set down fast rules which would be suitable to every case. The conditions of a patient vary from one to another and it is only after each case has been studied carefully for itself that a decision can be taken. The surgeon must be a diagnostician before being an operator.

Graves disease secondary to a pre-exist-

ing goiter, colloid or cystic, in other words a Basedowified goiter, must be operated on. In such cases the results are excellent, and unless the thyrotoxicosis has been too far advanced the cure is more or less certain. If pressure symptoms on the windpipe or on the inferior laryngeal nerves are present this is a further indication for operation. As a rule such Basedow cases are secondary to a pre-existing goiter, the primary or diffuse form being less apt to cause such pressure symptoms than the secondary.

In the primary exophthalmic goiter the development of the disease must be carefully studied before making any decision, and the influence of medical treatment and rest cure must be taken into serious consideration. If this treatment is of benefit, it may be continued, but if after a certain period of time, not too long, the influence of the medical treatment has not been appreciable, this case should be sent to a surgeon.

There are cases which seem to develop, comparatively speaking, suddenly and which progress very rapidly. They seem to affect a malignant form of development. In such cases the only hope, if there is any, will be found in the surgical treatment. But when the disease takes a chronic form, when symptoms develop gradually with sometimes spells of remission, in such cases the medical treatment should be undertaken carefully and loyally. If under this treatment the nervousness retrocedes, the tremor diminishes, the tachycardia becomes less marked, the diffuse enlargement of the thyroid gland and its vascular symptoms becomes less accentuated, then the medical treatment should be continued. But if, despite this treatment, the disease progresses or even remains stationary, it is then useless to resort any more to the medical treatment: the surgical treatment is the only one.

The social condition of the patient should be given careful consideration. If the patient belongs to the fortunate class, which can devote time and money to recuperate and can go from one resort to another, the medical treatment might be given a long and fair trial, but unfortunately the majority of patients do not belong to this class. They must make their own living; they have large families to take care of; they have to live on only with what they make. In such cases it would be unreasonable to ask such patients to devote months or years to a rest cure. The best and only treatment for such patients is an early operation. And don't think for one moment that wealth will protect rich patients and save them from operation! If they belong to the rich class they do not belong to the privileged class so far as health is concerned, and I am safe in saying that in Graves disease they furnish the majority of patients.

In conclusion it may be said that, although the surgical treatment is not ideal, it is up-to-date and the best therapeutic means we have at hand and that the earlier it is resorted to the better will be the results. Graves disease is a medico-surgical disease, a disease where both the physician and the surgeon must have something to say. There is no other field in medicine where the "team work theory" can be applied to better advantage. Before I terminate let me recall a few words of my master Kocher when he said, speaking to the internists, "Gentlemen, don't fail to send us your patients early. We will send them back to you, and in so doing we will find in our work better results and more pleasure."

151 East Broad St.

THE VALUE OF BLOOD PRESSURE ESTIMATION.

J. J. Goff, M.D., Parkersburg, W. Va.

(Read before L. K. and Ohio Valley Medical Society February 6, 1913.)

Since the discovery of the circulation by Harvey about the year 1628 we have accumulated a mass of information, together with a considerable amount of misinformation, regarding the heart and vascular system. Blood-pressure was demonstrated in 1733, the accurate study of it was begun in 1833, and we have now acquired a fair working knowledge of arterial tension and its significance. We at least know enough about blood pressure to recognize the importance of the careful estimation of it in certain pathological conditions, and this knowledge will stimulate us to further

study and investigation of the subject, a subject full of interest and importance to every member of the medical profession, be he general practitioner or specialist.

To one who has given little thought to the subject the estimation of blood pressure may seem of no great importance, just as bacteriology seems of no great importance to one who has given little thought to this subject; but we should not lose sight of the fact that any line of study and investigation which prepares us to do better work, to treat our patients in a more intelligent and satisfactory way, is well worth our best efforts. That there is an increasing demand for the more scientific methods in medicine and surgery there can be no reasonable doubt; that our more or less careless methods of diagnosis need revision is equally obvious, and it ought to be apparent to all that modern methods must be adopted by us if we hope long to retain the respect and confidence reposed in us by a suffering public.

The necessity for careful estimation of blood pressure is recognized by those who know something about the subject, and the growing demand for such estimation must be recognized by all, even those who know little or nothing about it. The attitude recently assumed by medical directors of life insurance companies regarding blood pressure determination is significant. A large and constantly increasing number of these medical directors now require examiners to give the blood pressure of each applicant examined, and they require this, not because they want the examiner to do more work for his fee, but because they appreciate the significance of high blood pressure and recognize the fact that it means something radically wrong. They know that an applicant whose blood pressure is abnormally high is not a good insurance risk, for the reason that he is not likely to live out his expectancy. If such an applicant is not a good risk for life insurance, not likely to live out his expectancy, may we not reasonably assume that he needs medical advice and attention?

There is not one single legitimate excuse for our use of an unscientific method in diagnosis when a scientific method is available, and a more or less accurate, practical and scientific method of estimating blood pressure is now available to every physician. The man who goes about estimating temperature variations by the laying on of hands we call a quack, but he is no more a quack than the man who goes about estimating blood pressure or arterial tension by the laying on of fingers. The principal difference between the two is that the man who guesses temperature variations will be right oftener than the man who guesses blood pressure variations. It may be argued that correct determination of blood pressure is not so important as correct determination of temperature. This may be true in the majority of cases, but there are conditions in which correct blood pressure estimation is of far more importance and value than correct temperature estimation, and I do not doubt that the time will come when every intelligent physician and surgeon will consider correct blood pressure records just as important as correct temperature records, and the sphygmomanometer just as indispensable as the clinical thermometer.

There is a venous as well as an arterial blood pressure, and a change in the one brings about a change in the other, rise in arterial pressure being accompanied by a fall in venous pressure and a fall in arterial pressure being accompanied by a rise in venous pressure. On the arterial side blood pressure falls as the periphery is approached, while on the venous side blood pressure falls as the heart is approached. In other words, blood leaves the heart under high pressure and returns to the heart under low pressure. There is a lesser or pulmonic as well as a greater or systemic circulation, and of course there is a pulmonic as well as a systemic blood pressure, the former being much lower than the latter, for the reason that the pulmonary capillary resistance is much lower than the systemic capillary resistance, and the velocity of blood-flow through the pulmonary capillaries is correspondingly higher.

From the foregoing it will be seen that "blood pressure" and "arterial tension" are not synonymous terms, blood pressure being as common to veins as to arteries, but in this paper they will be treated as such, since the paper deals with systemic arterial blood pressure, and this is just what we

mean by "arterial tension" as we ordinarily use the term.

Blood pressure or "arterial tension," then, is the pressure or force exerted by the blood upon the walls of the vessels in which it is contained. This definition, strictly speaking, applies only to lateral pressure, since end pressure possesses another element, velocity head, and since the end pressure in the branch of an artery is equal only to the lateral pressure in the artery from which it branches, provided the branch is given off at right angles. The fact that blood circulates is proof positive that it exerts pressure upon the walls of the vessels in which it circulates. Blood pressure depends upon heart energy, peripheral resistance, arterial elasticity and blood volume. It will be readily seen that very much depends upon the energy of the heart, since blood can be forced into the aorta only when the energy of the left ventricle is sufficient to overcome the resistance in the aorta. The pressure in the left ventricle must rise above the pressure in the aorta before the semilunar valves open. In other words, ventricular pressure must exceed aortic pressure before blood can flow from the ventricle into the aorta. The force exerted by the ventricle, then, is one element in the production and maintenance of blood pressure.

Suppose, now, we increase or decrease the resistance in the periphery, the resistance against which the blood is being forced by the ventricular systole. This increased peripheral resistance reduces the rate of blood flow through the capillaries into the veins, increases the amount of blood remaining in the arterial system and thus raises arterial tension, while to decrease the peripheral resistance increases the rate of blood-flow through the capillaries, reduces the amount of blood remaining in the arterial system and thus lowers arterial tension. Other conditions remaining the same, higher blood pressure always follows increased peripheral resistance and lower blood pressure always follows diminished peripheral resistance. Of course, as this increase and decrease of peripheral resistance are under the control of the vasomotor mechanism, it follows that the study of this mechanism is of the greatest importance to the clinician, though this subject can be dealt with here only in a very superficial way. Under the influence of the vasomotor system the vessel walls are kept constantly in a state of slight contraction, and this condition of slight contraction is spoken of as tonus, a quality possessed by all blood vessels, arteries and veins alike, which contain muscle fiber, and this tonus depends upon the action of the vasoconstrictor and vasodilator nerves. Without this tonus the circulation could not be maintained and heart failure would soon follow. Either directly or indirectly blood pressure and circulation throughout the entire body are very largely under control of the vasomotor system. In organs having no vasomotor nerve supply, and this seems to be the condition of the brain, heart and lungs, the supply of blood and the pressure under which it circulates, are indirectly regulated by the action of the vasomotor system upon the circulation in other parts of the body.

In any particular vascular area the vasomotor tone is constantly undergoing change in response to the needs of the area, and the larger the vascular area affected the greater the effect upon the general blood pressure. When we understand that the vessels in the splanchnic area, which are supplied by the splanchnic nerves, are capable of holding all of the blood in the body, it is easily seen that this area is capable of exerting a profound impression upon the blood pressure, and it is well to remember that this is the most easily influenced capillary area in the body. The capillary area in the skin and muscles is about equal to that in the splanchnic area, and as a rule when the peripheral vessels in the skin and muscles dilate, those in the splanchnic area contract, and when those in the splanchnic area dilate those in the skin and muscle area contract, and thus a proper balance of blood pressure is kept up. Of course a contraction of the peripheral vessels in any considerable area, if not compensated by a corresponding relaxation of the peripheral vessels in some other area, must increase general arterial tension, since it increases the total of peripheral resistance, the resistance against which the blood is being forced by ventricular contraction.

I think we have now shown that increased force of ventricular contraction, together

with decreased peripheral resistance, decreases or lowers arterial tension; but the extent to which these elements raise or lower blood pressure depends entirely upon the elasticity of the vessels into which the ventricle is forcing the blood and from which the blood is flowing through the capillaries into the veins.

Arterial elasticity is that quality of an artery which renders it capable of being distended by pressure from within, and of again resuming its original size when the pressure from within has been removed or withdrawn. It is this elasticity which enables the arterial system to store up the force of ventricular contraction, an intermittent contraction, during ventricular systole, to be used or liberated continuously during ventricular diastole, to drive the blood onward toward and through the capillaries. If the arteries were rigid tubes, with no elasticity in their walls, the pressure in them would rise extremely high during ventricular systole and fall almost or quite to zero during ventricular diastole, and the blood would flow through the capillaries by spurts.

There is still another important factor in the production and maintenance of blood pressure, and this is the volume of blood in the vascular system upon which the heart can act. Other conditions remaining the same, so long as the ventricle is contracting with sufficient force to propel its contents into the aorta, the pressure in the aorta will be in proportion to the amount of blood present in the ventricle at the beginning of systole, and the amount of blood in the ventricle at the beginning of systole will depend upon the amount brought to it from the venous side of the circulation, and this amount will depend largely upon the total quantity of blood in the vascular system. No matter how forcibly a ventricle contracts, it cannot raise the pressure in the arterial system above the height to which the blood present in the ventricle and to be discharged into the aorta is capable of raising it. The rate of ventricular contraction and other conditions remaining the same, the discharge of 100 c. c. of blood into the aorta at each systole will raise the pressure higher in the aorta than the discharge of 50 c. c. Of course the ventricle when contracting never forces out all of the blood present in it. There is always a certain amount of blood remaining in the ventricle at the end of systole, known as residual blood, and its amount depends upon the force and extent of ventricular contraction and the resistance against which the ventricle is acting. In a weak and dilated heart the residual blood may exceed in amount that forced into the aorta by a ventricular systole. It is well to remember in this connection that a ventricle acting too rapidly or too slowly will force less blood into the aorta in a given time than a ventricle acting at just the proper rate. When a ventricle acts too rapidly it has not time to fill properly during the shortened period of diastole, and when it acts too slowly there is a period of stasis, the period between complete filling of the ventricle and the beginning of ventricular systole, during which no more blood is flowing into the ventricle and no blood is being forced from the ventricle into the aorta. This means a loss of working time, and this loss cannot be made good. A ventricle is most efficient from the standpoint of the amount of blood handled in a given time, when it is contracting at a rate which just allows of complete filling and does not allow diastasis to set in.

It must be plain that the forcible expulsion of blood into the arterial system by the powerfully contracting left ventricle tends to raise the pressure in that system, which the regular, even and continuous outflow of blood through the capillaries constantly tends to lower. The pressure in the arterial system is positive at all times, for the reason that the inflow from the ventricle tends to remain in excess of the outflow through the capillaries, but this tendency is not the same throughout the cardiac cycle The pressure rises in the arterial system during the ventricular systole, when the amount of blood entering this system is greatly in excess of the amount leaving it by way of the capillaries; but blood is constantly flowing at an almost even rate through the capillaries, and the blood pressure must constantly fall during ventricular diastole, when the semilunar valves are closed and no more blood is being forced into the aorta. There is a time, then, when the pressure is highest (maximal) and a time when it is lowest (minimal). The pressure reaches its highest point while

the ventricle is contracting, and it reaches its lowest point just before the semilunar valves are again forced open by the next systolic contraction of the ventricle. Thus we have a systolic and a diastolic blood pressure, the systolic pressure being considerably higher than the diastolic, and the difference between the two, usually amounting to from 30 to 40 m. m. Hg. in the adult, is known as the pulse pressure. In normal adults the blood pressure varies between 110 and 130 maximal and 60 and 90 minimal.

As above stated, blood pressure reaches its highest point during ventricular systole and its lowest point at the end of ventricular diastole. From the moment of highest pressure in the aorta the pressure begins to fall toward the lowest pressure, and in case the ventricle did not again contract for a sufficiently long time the pressure would continue to fall until finally a point of no pressure would be reached and the blood would cease to circulate.

The difference between the maximal and minimal pressures is greater near the heart and gradually grows less as the periphery is approached, the maximal pressure falling to meet the minimal, until in the smallest arteries they are practically equal. As we approach the periphery the minimal pressure does not rise, but remains about the same, and since the maximal pressure falls from the aorta, where it is about 30 or 40 m. m. Hg. higher than the minimal, to the arterioles, where the maximal and minimal are about equal, it follows that the diastolic or minimal pressure, wherever measured, about equals the peripheral resistance, and the maximal pressure in any large artery is a little lower than the intraventricular pressure during systole.

We have already shown that a ventricle acting too rapidly or too slowly affects blood pressure by reason of the fact that such a ventricle handles less blood in a given time than a ventricle acting at just the proper rate; but too rapid or too slow action of the ventricle affects blood pressure in another way. Blood pressure falls continuously from the highest point, which is reached during ventricular systole, to its lowest point, which is reached just before the intra-ventricular pressure rises above intra-aortic pressure and blood is again forced into the aorta. In other words, arterial tension falls throughout the entire diastolic period of the ventricle, and it follows that the shorter the diastolic period the less blood pressure falls and the longer the diastolic period the more blood pressure falls. Stated in a different manner, rapid ventricular action shortens the diastolic period, the period during which blood pressure falls, and the minimal pressure rises, while the difference between maximal and minimal pressures, the pulse pressure, becomes less. With slow ventricular action there is more time for blood pressure to fall during the long diastolic period and minimal pressure is lower, while the difference between maximal and minimal pressures, the pulse pressure, is greater.

Variations in capillary resistance affect blood pressure in a similar way. Contraction of the capillaries increases the resistance against which the blood is flowing, less blood passes from the arterial to the venous side of the circulation in a given time, the time of ventricular diastole, the blood pressure does not fall so low, and minimal pressure rises and the difference between maximal and minimal pressures, the pulse pressure, becomes less. Dilatation of the capillaries decreases the resistance against which the blood flows, more blood passes to the venous side of the circulation in a given time, the time of ventricular diastole, minimal pressure falls, and the difference between maximal and minimal is greater.

Now, as to the method of estimating blood pressure. After several years of more or less constant use of the sphygmomanometer I frankly confess I have no confidence whatever in any man's ability to estimate blood pressure by any other means than the use of a reliable instrument made for the purpose of measuring blood pressure. Almost daily we see some well-meaning, honest doctor palpate a patient's radial artery with two or three fingers, sometimes one finger or a thumb, and hear him say "high tension," "low tension," etc. He may think he knows, but he does not. He is simply guessing. This method of estimating blood pressure is entirely unreliable and totally worthless.

I do not mean to say one might not in the course of time, by innumerable guessings, checking his guess each time by the

use of a good sphygmomanometer, acquire considerable skill in estimating arterial tension, but without this checking he would still be guessing after fifty or a hundred years of pulse palpation. Of course, by remembering those conditions in which high or low blood pressure is usually present, one may guess right more than half the time, but this is no justification for his use of an unscientific and unreliable method. Any physician holding the view that he can correctly estimate blood pressure without the sphygmomanometer should get this instrument and check his guesses for a few years and thus satisfy himself of the fallacy of his palpation method.

As above indicated, the only reliable way of estimating blood pressure is by the use of an instrument constructed for that purpose, and there are now many such instruments on the market, all of them more or less accurate, none of them perfect, and most of them too expensive, too bulky and too complicated for general use. The Janeway, the Tycos and the Faught are sufficiently reliable for practical purposes, and they are cheap, portable, simple in construction and durable. I use the Faught apparatus and like it. The Erlanger sphygmomanometer is a much better instrument, as it has an attachment by which both maximal and minimal pressure may be recorded graphically, but it is expensive, bulky and complicated.

The influences modifying normal blood pressure, the correct method of using the sphygmomanometer and the pathological conditions in which its use may be profitably carried out, as well as the treatment of hypertension and hypotension, or rather the treatment of the conditions concomitant with or the conditions producing hypertension and hypotension are important and demand further notice; but these must be taken up at another time, as this paper is already too long.

MY CREED.

I would be pure for there are those who trust me;
I would be true, for there are those who care;
I would be strong, for there is much to suffer;
I would be brave, for there is much to dare;
I would be friend of all---the foe---the friendless;
I would be giving and forget the gift;
I would be humble, for I know my weakness;
I would look up---and laugh---and love---and lift.

HOWARD ARNOLD WALTER.

RUPTURE OF THE LIVER.

John Egerton Cannaday, M.D., Charleston, W. Va.

(Read before the West Virginia Medical Association, May 22, 1913, Charleston, W. Va.)

By virtue of its large size and somewhat friable character the liver in spite of its sheltered position under the diaphragm and surrounded by the bony and cartilaginous chest wall is quite easily wounded by different forms of violence. The most common causes of liver rupture are various forms of external violence by which the rupturing or tearing force is transmitted through the chest wall, such as the kick of a horse, a blow from a falling piece of timber, the force of an explosion from a premature shot in a mine, compression between two mine cars or railway accidents or the puncture of a broken rib are among the commoner causes. In direct violence, such as falls from a height, the victim landing on the buttocks or feet, the lower border and anterior surface of the organ is the part most usually injured. The right lobe is ruptured more frequently than the left and the convex surface more frequently than the concave. The right lobe of the liver, lying as it does wedged in between the ribs and the spinal column, is peculiarly susceptible to crushing injuries. In strictly crushing injuries of the liver more reliance should be placed on the tampon than the suture. Various observers say that the right lobe of the liver is ruptured from four to ten times as often as the left.

According to Gray the liver is more frequently ruptured than any other organ of the abdominal cavity. He also speaks of an internal rupture of the liver which does not often happen; when this occurs a hematoma forms within the liver substance. The liver is more often injured than any other of the solid abdominal viscera.

According to Johnson among 365 cases of subcutaneous injuries of the solid abdominal viscera, the liver was injured in 189 and the spleen, kidney and pancreas combined were injured 176 times.

Alcoholism, tuberculosis, tumors of the liver, syphilis of the liver, amyloid degeneration, malarial fever, or any condition in

which enlarged and softened liver form part of a general or local pathological process.

To show the trend of the years in a brief and fragmentary way I note the following: Robert Druitt in his Principles and Practice of Surgery, published in London, 1859, says wounds of the liver, if extensive, are from its great vascularity nearly as fatal as those of the heart. The fourth edition of the American Textbook of Surgery says, "Surgical interference is ordinarily of no avail."

Bryant, writing in 1902, says prompt operative action appears to increase the rate of recoveries from 15% to 45%.

As Cullen says, liver surgery is still a vaguely explored field and will certainly in the future engross much of the attention of the abdominal surgeon. Cullen quotes Mikulicz as saying, "To my mind Kousnietzoff's needle is the egg of Columbus in the technique of liver surgery."

Lejars says, "Once the lesion is discovered the technique is the same as for wounds elsewhere."

Da Costa states that the first operation for the relief of liver hemorrhage was performed by Willette in 1888.

SYMPTOMS.

The history of a subcutaneous injury of the upper abdomen or chest wall over the liver. There are usually symptoms of shock and internal bleeding such as pallor, a weak and rising pulse; there will be severe abdominal pain, usually referred to the right side caused by the effect of the blow on the peritoneum, there may be at times a slight desire for the bowels to move. The right abdominal muscles will be rigid and there is localized tenderness. The respirations may be shallow and increased in number. The blood may accumulate in sufficient quantity to cause dullness, which may appear after the second day.

It is rather difficult when there is no external wound to call attention to the special organ injured in the trauma. Rigidity of rectus is a striking sign, shock indicating internal hemorrhage demands immediate operation with hemostasis in loco.

Rather rarely the patient's condition may become exceedingly grave before the symptoms have become at all noticeable.

PROGNOSIS.

No doubt small ruptures of the liver often get well without operation, but when so grave a condition as abdominal bleeding confronts us it would seem to be the safer and more merciful course to open the abdomen and try to arrest the bleeding. The dangers of infection of blood clot, either in the liver substance or in the peritoneal cavity, are great. Edlof calls attention to the fact that if liver hemorrhage proves fatal the end comes within 24 hours, so it behooves us to be prompt in these cases.

Hilderbrandt claims that rupture of the biliary ducts with the associated leakage of bile will not produce septic peritonitis, though he dwells on the fact that the presence of sterile bile in the peritoneal cavity will cause an aseptic fibrous peritonitis of varying severity due to the degree of corrosive activity of the bile.

Terrier and Ouvray collected 45 operated cases with a mortality of 30 per cent.

The present day surgical technique will save 75 per cent of these cases. Keen says 85 per cent of unoperated cases die. Eisendrath collected 37 operated cases. Out of these there were twenty-two recoveries. The outlook for these cases without early treatment is exceedingly grave. From the highly vascular character of the organ bleeding will be severe and continuous. The fact that liver injuries are usually complicated by injuries of other viscera adds to the mortality.

Keen and Tiffany in America, Terrier and Ouvray in France and Langenbach in Germany were the pathfinders in liver surgery. It remained for Kousneitzoff, a Russian, to devise his liver needles, which are long, thin and have well rounded ends, which easily slip past the blood vessels of the liver, rather than puncture them as a sharp pointed needle of the usual type would. Cullen has suggested the use of a Hagedorn needle passed eye first when the liver needles are not available. When unable to obtain these he has had good results with an ordinary bodkin.

A vertically placed incision in the upper portion of the right rectus muscle gives fair access to the liver and will usually enable one to reach the injured portion of the organ. If the liver injury is high up under the costal wall, resort may be made to the osteoplastic flap so well described by Dr. Willy Meyer, by which several of the lower

rib cartilages are resected, enabling the operator to retract a portion of the chest wall and secure easy access to the main body of the liver.

The sutures should be passed deeply and should not emerge too near the edge of the raw surface. They should be tied with just a sufficient degree of tension to stop the bleeding and no more, as undue tightening will cause them to cut through the friable liver tissue. During the ligation of individual blood vessels the method should be adopted described by Keen of very gradually tightening the ligature and ceasing to make traction immediately after the blood has ceased to flow.

Occasionally a portion of the liver may be entirely torn away, leaving a large bleeding surface. A bleeding area of this sort can be easily controlled by a few deeply placed and gently tied sutures.

The method described by Keen of securing hemostasis by the combination of suture and tampon will be useful in many cases. He closes the gap as nearly as possible by suture and tampons the remaining cavity with gauze.

The thermo-cautery has been used to effect liver hemostasis, but there is considerable danger of secondary bleeding following its use.

Da Costa advised suture of liver to abdominal wall prior to packing to resist pressure. That will depend on the nature of the rupture, and I have found in several cases that packing easily controlled bleeding in liver wounds without that preliminary step.

Van Buren Knott devised an ingenious suture. He approximated the wound with No. 3 catgut and secured either end by tieing over a skein of catgut. This was done to obviate the tendency of all liver sutures to cut out of the friable liver substance.

McDill in the *Journal of the American Medical Association* describes his experimental work for the arrest of severe liver hemorrhage. He makes the ordinary abdominal incision, then makes a second incision one inch in length below the costal margin in the right axillary line. Through this is passed an ordinary enterostomy clamp covered with rubber tubing. One branch of the clamp is carried through the foramen of Winslow behind the pedicle of the liver and the other in front of the vessels for a distance of about two inches. The compression is made near the duodenum because at this point the vessels lie near each other. This method has been found by him to be of value in the control of acute bleeding from the liver.

When tamponing to control bleeding that cannot readily be managed by suture I make use of several packing strips and bring the end of each out through the wound. These are removed in succession at intervals so as not to encourage secondary hemorrhage.

Raw areas that cannot be entirely closed in with liver tissue should be covered over with omentum for the prevention of adhesions to the intestines. These patients will be badly shocked from loss of blood and should be treated accordingly.

It has been my misfortune to have a considerable experience with gunshot wounds of the liver, but these do not come within the scope of this paper.

Case 1. An Italian thirty years of age had been injured by a premature mine shot, a large chunk of coal striking him in the side and back. As the man had considerable hematuria, rupture of the kidney was suspected. The patient was kept quiet in bed as far as possible. The hematuria diminished somewhat, but the pulse rate was accelerated. Operation was determined on. I made Pean's transverse incision over the region of the right kidney. The kidney was carefully examined. Neither the main body of the kidney nor the capsule was broken, so I decided that the trouble was elsewhere. The parietal peritoneum was opened just beyond the insertion of the ascending mesocolon. The incision was carried upward to the region of the ninth costal cartilage and downward for two inches below the line of the transverse incision. The abdominal cavity was well filled with dark blood. A strip of the right lateral and anterior border of the liver was torn off with the exception of the end near the gall bladder, which was still attached. This strip was approximately two inches wide by four inches long. The attached end of the liver strip was severed, a few tension catgut sutures inserted and lightly tied to prevent bleeding, the abdomen cleansed and the enormous incision closed. The patient was given saline transfusion and put to bed. The man was unruly and got out of bed whenever an opportunity presented itself. He usually removed the dressing from the wound four or five times in twenty-four hours, but nevertheless made a rapid recovery and left the hospital on the thirteenth day practically well.

Case 2. A young logger about 30 years of age was struck in the right upper abdomen with a handspike. I saw him about six hours afterwards. He was noticeably pale and the pulse was 120 per minute with lowered tension.

The entire abdomen was rigid, there was considerable pain and tenderness in the liver region. The normal area of liver dullness was considerably increased. The abdomen was opened through a right upper rectus incision. There was an abundance of free blood and clots. There was a tear of the anterior portion of the lower border of the liver nearly 2½ inches in length and ¾ of an inch deep at the maximum. This was quickly closed by suture, the clots and free blood removed by sponging and the wound closed without drainage. Shock was considerable, but was treated by artificial heat and saline solution by drop method. He rallied in a few hours. There followed a quick rise in temperature to 102° F. which gradually subsided in the course of four or five days. This patient's convalescence was uneventful and his recovery complete.

Case 3. An adult male, 38 years old, sawmill employe. During an accident to some of the machinery he was struck in the right side of the chest, not far from the liver margin of the ribs, by a piece of flying metal. The external wound was small, about two inches in length. The patient arrived at the hospital about twelve hours after the accident and was seen by me immediately thereafter. His general appearance was that of severe shock from hemorrhage, pulse rapid (about 130) and weak. The recti muscles were extremely rigid. There was marked liver dullness.

Operation was decided on; a liberal median incision was made. The abdomen was found to be quite well filled with loose blood and clots. There was a large rent in the anterior surface of the liver which extended well up under the ribs and was five inches in length and two and a half inches in depth at its deepest part.

As the wound was most extensive and not easily accessible, while the patient's condition was very grave, I decided to attempt control of the bleeding by packing rather than by suture. Four strips of gauze packing were inserted and the ends brought out of the abdomen and the bleeding was perfectly controlled in this manner. Twelve hours from this time one of these strips was removed. Twelve hours later another one and so on until all were out. I did not remove them all at the same time for fear of bleeding. Meanwhile the patient rallied rapidly and made an uninterrupted recovery.

Capitol City Bank Building.

INDICATIONS FOR AND PROGNOSIS OF SURGICAL PROCEDURES IN EPILEPSY.

Jas. R. Bloss, M.D., Huntington, W. Va.

(Read at annual meeting of State Medical Association, May 22, 1913.)

We are so frequently importuned by patients, and more especially by their relatives, to undertake surgical procedures for the relief of epilepsy that it has seemed expedient to bring this matter up for discussion. My remarks will be brief and shall adhere strictly to the subject as announced, not touching upon the technique of cranial surgery and so on, but trying to give an idea as to which cases may be and which will in all probability not be benefited by surgical interference.

Statistics are always helpful in arriving at conclusions. Those of West Virginia institutions do not differ markedly from those beyond our borders, but may make a greater impression because they get closer home to us.

As you know, practically all persons afflicted with this disease who are sent to an institution in this state go to the West Virginia Asylum. This being the case, I will epitomize the statistics of the above institution as they relate to the subject under discussion.

According to the records, since the establishment of this institution there have been admitted 525 persons afflicted with epilepsy. These patients have been classified as follows:

	Male.	Female.	Total.
Epilepsy	166	143	309
Epilepsy—Jacksonian	...	1	1
Epileptic idiot	13	17	30
Epileptic insane	93	31	124
Epileptic imbecile	34	27	61
Total	306	219	525

The "alleged cause" of the disease was as follows:

	Male.	Female.	Total.
Alcoholism in parents	3	3	6
Congenital	16	10	26
Consanguinity	..	1	1
Dissipation	5	1	6
Fall	1	2	3
Goiter	1	..	1
Head injury	16	1	17
Head injury when an infant	..	1	1
Head injury at birth	2	..	2
Heredity, direct	2	2	4
Heredity, indirect	2	2	4
Heredity, unascertained	7	7	14
Infantile convulsions	..	2	2
Injury to mother during gestation	..	1	1
Mal - treatment and abuse	..	1	1

Masturbation	8	..	8
Measles	1	1	2
Meningitis	2	1	3
Meningitis, cerebro-spinal	6	2	8
Menopause	..	1	1
Nervous shock	..	1	1
Old age	2	..	2
Optic neuritis	1	..	1
Overwork and exposure	1	1	2
Parturition	..	2	2
Pertussis	1	..	1
Puberty	3	10	13
Scarlet fever	2	..	2
Senility of parents at time of conception	1	..	1
Smallpox	1	..	1
Sunstroke	6	1	7
Syphilis	..	1	1
Typhoid fever	1	..	1
Uterine displacement	..	1	1
Worms	..	1	1
Cause stated as unknown	215	162	377
Total	306	219	525

Spratling found "trauma" the alleged cause in 8.5% of 814 male and 3.5% of 509 female individuals with epilepsy. In the 525 histories here reported the percentage is much less than his, being 6.2% in the male and 1.82% in the female patients.

A study of these figures leads us to the conclusion that only a comparatively small proportion of epileptics are to be considered as being eligible for surgical procedures because of trauma. Were we certain of the final results in all of these cases it would add much to the therapy of the malady, but results show that in the majority of instances where the individual is operated upon the prognosis as to cure is anything but hopeful.

We must not overlook the fact that the very favorable results reported by some operators depend, in many instances at least, upon too early repoits as to the final condition of the patients. Almost any operation will be followed by a lessened number of seizures for a time; three or four years afterward they are as frequent as before the operation. Be very skeptical of "cures" where only one or even two years have elapsed since the operation. This has reference to operations undertaken several years after the onset of the disease.

Then again we must not lose sight of the fact that reports may be given alleging that the operation has cured epilepsy, when a careful inquiry will elicit the information that the trouble has been a reflex spasm of a single muscle or muscle group, due to peripheral or cortical irritation; the spasm never having been a true epileptic seizure at all. I would not for a moment decry these brilliant results in the least. I do protest, however, against classifying these patients as "cured epileptics."

So before undertaking operative procedures let us assure ourselves that the patient has epilepsy; then we must determine the type of the malady and try to ascertain the cause; finally we have to decide upon the point at which to interfere.

Admitting the presence of the disease, we next face the determination of the type. This is essential, for "at the outset we exclude from surgical consideration, so far as operations on the brain are concerned, *petit mal*, psychic and hystero-epilepsy, serial attacks and status. Rarely we may find accidental and isolated occasions for operating upon some of these, but even so, the principles and methods applicable in other types apply fully as well as in these" (Spratling).

This leaves us *grand mal* and Jacksonian epilepsy. From an etiological point of view grand mal is idiopathic, organic or traumatic.

In idiopathic epilepsy operative interference is not indicated at any time, in my opinion. Even if the beginning of the spasm should be localized in a certain area, I fail to see what benefit can be hoped for in removing the center of control in the cortex. We will find that in the course of a few months the resultant cicatrix will again set up irritation and the spasms return.

In organic epilepsy we find that any form of new growth, such as tubercle, syphiloma, sarcoma, etc., as well as hemorrhage, thrombi, emboli and aneurysm, when appearing in the brain, may cause the con-

Great difficulty is generally experienced in these cases in localizing the trouble, for in both epilepsy and tumor many of the vulsive seizures.

symptoms may be very similar. In instances where the epilepsy is of recent onset the mental faculties are unimpaired to any great extent, and the paroxysms are far enough apart for the patient to regain the normal mental state during the interval, we can then be fairly certain as to the location of the adventitious growth. Under such conditions we are then justified in undertaking operative interference, if the area is accessible, with the hope of at least benefiting, if not curing, the patient, the result depending of course upon the character of the pathological condition found.

By far the greater number of patients afflicted with epilepsy who come to the operating table are classified in the traumatic division. In many of these the trauma is not the sole cause, but a contributing one. We should bear this in mind and explain it to the relatives; for in cases where injury is received by individuals strongly predisposed to epilepsy our results from a therapeutic point of view are, more frequently than not, disappointing. This is true even when the operation is done immediately after the receipt of the injury.

In epilepsy following trauma, or of the Jacksonian type, we must endeavor to locate the seat of the cortical injury. In studying the onset, course, etc., of the seizures, with this end in view, we should not accept the statements of sympathetic friends or interested relatives. The patient should be under the close observation of the physician, which is rarely possible, or of an acute and trained observer, who can furnish an accurate record of the aura, the beginning of the convulsion, its course and so on.

We should carefully examine the head for scars, depressions, etc., not forgetting, of course, that the injury to the brain and the visible head injury may not coincide. In cases where the localizing clinical symptoms and the visible evidences of trauma do coincide, we feel certain of the point at which to operate. Where localizing symptoms and the site of the injury do not coincide we should accept the area pointed out by the former as the location for our surgical attack.

Given a case where the clinical symptoms and the history of trauma are clear; where the seizures are of recent onset and there is no strong hereditary predisposition, we may operate with a strong hope that we will be successful in curing the patient.

Where the injury was received ten, twenty or even fifty years before, as in one of the institution patients; where the symptoms are no longer localized in their onset and with an hereditary predisposition, it is, in my opinion, useless to operate with the expectation of curing or even benefiting the patient. Only the hopelessness of the disease justifies us in operations under such conditions.

The important thing for us to remember, let me impress this, gentlemen, is that we must operate and promptly, upon patients who have suffered traumatic injuries followed by convulsions. These recent convulsions are not those of epilepsy, and we must prevent by prophylactic surgery these individuals from becoming true epileptics. With a strong predisposition even then the outcome will be in doubt.

We must mention, of course, convulsive seizures due to irritation of the peripheral distribution of the nerves. These may be due to an adherent prepuce or clitoris; adhesions of the pelvic viscera in females; strictures of the urethra; the injury of the nerve trunks may cause these spasms, or it may be that other structures of the body are diseased, as in a case related by Briggs. In this case a girl had a depressed fracture of the skull and necrosis of the tibia. He operated upon the latter first and five years afterward she had had no return of the convulsive seizures, showing that it was not the depressed fracture, but the irritation produced by the diseased bone which was the cause of the convulsions.

We are often asked as to the advisability of removing the ovaries and uterus. Where the convulsions began at puberty and are practically confined to the menstrual period; where all other therapeutic procedures have failed to be of benefit, then we should seriously consider this. Occasionally the results may be excellent if followed by appropriate dietetic, hygienic and therapeutic measures. Where the seizures have become those of true epilepsy and the disease is of long standing, we will be disappointed. At least this is my personal opinion, formed after observation of patients upon whom this operation had been performed.

The following conclusions seem justified:

1. A certain proportion of epileptics have trauma as the determining cause of their disease.

2. In a much larger proportion the trauma is but a contributing factor.

3. The prognosis as to cure after operations in idiopathic epilepsy is not hopeful, even if the seizures are localized in their onset at first.

4. The time to operate is at once after the receipt of the injury, especially so if spasms occur. These are not essentially epileptic seizures and prophylactic surgery prevents them becoming so.

5. After the epileptic habit is established the prognosis as to cure by operation is very unfavorable.

6. Even in cases of long standing, with a history of head injury and a focus of peripheral irritation, operate upon the latter first.

7. Do not fail to follow the operative procedures with dietetic, hygienic and therapeutic measures: this enhances the prognosis.

EARACHE.

T. W. Moore, M.D., Huntington, W. Va.

(Read at annual meeting of State Medical Association, May 22, 1913.)

Barr divides[1] earache into two varieties—first, pain associated with an inflammatory process; second, pain without any evidence of inflammation.

The most important causes of the first group are the acute inflammations such as an acute purulent otitis media, or in children there may be severe pain from an acute catarrhal otitis media, both of which when not associated with one of the acute exanthems are in the majority of cases due to adenoids, and often indirectly due to this cause when associated with an acute infectious disease. Prof. Alexander[2] made some observation in this respect in a school in a model town in Austria during an epidemic of scarlatina. There was not a case of otitis media in a child who had had his adenoids removed, while the usual percentage of this complication existed in those children who had not undergone this operation. The pain usually begins with a sense of fullness and pressure that in the suppurative form later produces the most intense suffering, usually ceasing when the membrane ruptures, but not always, often continuing for several days even with a free discharge of pus, or returning after a period of intermission. The latter is usually due to the opening becoming blocked and the flow obstructed. Whilst on the other hand the tubercular and sometimes the syphilitic forms of purulent otitis media may be without pain throughout the disease.[3]

Furunculosis of the external auditory canal is a source of great pain, especially if the disease has its origin in the deeper layers of the cutis, when it is characterized by tearing or beating pains, which gradually increase in severity and radiate towards different parts of the head and neck.[4] A valuable point in diagnosis is the increased pain when the ear is touched, or upon movements of the jaw. You may think it superfluous to speak of diagnosis in furuncle of the external auditory canal but at times when you obtain a history of deafness and suppuration and find the canal occluded from swelling with tenderness over the mastoid region, it is very hard to decide whether you have a suppurative otitis media with mastoid involvement or a diffuse furunculosis of the external auditory canal without middle ear involvement.

Myringitis is painful, but the pain is neither so severe or incessant as in the acute purulent forms of inflammation or in furunculosis, especially when the latter develops in the deeper layers of the cutis.

Primary carcinoma of the auricle, Phillips tells us, is attended with the most excruciating pain.[5]

In mastoid inflammations we frequently have pain, usually boring or throbbing in character. In chronic purulent affections of the middle ear pain usually indicates a blocking of the secretions or from caries or necrosis, though it is sometimes the first indication of an intra-cranial complication.

The tonsils are at times a cause of earache, especially when the swelling is very great, as it sometimes is in peritonsillar abscess.

The second group—that is, the earache without apparent inflammation—is the more puzzling. Traumatism such as rupture or perforations of the tympanic membrane may

play a part in this variety. The tympanic membrane is very sensitive to touch, such as a foreign body in the ear, often the use of instruments by the surgeon producing severe and sometimes prolonged pain. I remember upon one occasion I started to remove impacted cerumen from a woman's ear with warm water. The instant I started the flow from the syringe, the patient screamed and I was unable to remove the secretion. Six hours later I was compelled to give this patient a hypodermic of morphine in order to relieve her pain. I thought that there was probably some acute inflammatory condition, and the very slight pressure pushed the cerumen against the tympanic membrane. The patient telephoned the next morning that she was at her work and felt all right, and as I did not see her afterwards I was unable to verify my surmise.

Sometimes there is no discoverable cause of the pain and we regard it as a manifestation of some dyscrasia, and for some unknown reason the pain is referred to the ear or ears. This may be anaemia. You remember some one defined neuralgia as a nerve crying for food, and anaemia fulfills this definition. We may have a rheumatic condition of the articulation of the jaw which the patient refers to the ear. Or again it may be from a molar tooth. Recently a patient was referred to me who had been having an earache so intense that morphine had been administered nearly every day for three weeks. The physician, who is a very skillful one, thought at one time the tympanic membrane was bulging and was quite sure that it was very red when he examined the ear. The pain came on daily at about 5 o'clock and lasted all night unless relieved by an opiate. I found a perfectly normal tympanic membrane, hearing also normal, as were the tuning fork tests for both bone and air conduction.

I then inquired about the tonsils and elicited a history of tonsillitis, but this had come on since the earache began and subsided about a week before I saw the patient. Pressure over the tonsil on the side of the painful ear caused intense pain in the ear. I diagnosed a retrotonsillar abscess and after dissecting the tonsil almost free discovered probably ten drops of pus. I had dissected so much of the tonsil loose before finding the pus that I removed it at this sitting, and at the patient's suggestion I also removed the other tonsil, as it was diseased and the patient a great sufferer from tonsillitis. This was followed by the worst hemorrhage I have ever had following a tonsillectomy and left the patient very much debilitated, having to remain in the hospital for nearly one week. While in the hospital once or twice the ear pained for a short time, but as soon as the patient returned home the earache recurred with all of its former severity.

One night when I was called I could hear the patient's groans before entering the house, and her suffering was most pitiful, nothing seeming to relieve it but morphine. A few days before I removed the tonsils the patient broke off nearly half of a large molar tooth, which she stated had never pained her and was not painful at this time, but upon my insistence she visited a dentist, who felt assured that the tooth was not the source of the earache. However, he devitalized it and the patient has had no earache since the dentist's first treatment of the tooth. (I think that the reddened tympanic membrane as seen by my confrere was due to the instillation of some home remedy, of which a number had been tried.)

Earache resulting from decayed teeth has long been observed. Hilton[6] in his "Rest and Pain," written in the early sixties, refers to this and cites two cases in detail and Turnbull reports[7] a case described by Mr. Cattlin which occurred in 1843.

Ulcers of the tongue or throat may produce intense pain in the ear or ears and has been observed in carcinoma of these organs and also in tubercular laryngitis it is a common symptom.

The treatment is so essentially removal of the cause that I will only refer to a few of my hobbies. In children where the short process can be determined you often obtain immediate and permanent relief from the attack of pain by the instillation of a few drops of warmed adrenalin chloride solution, to which I usually add two grains of cocaine hydrochloride to the fluid dram. If you cannot see the short process and you are convinced that you have suppuration, apply the same principle that you would in any other part of the body, which is establislr drainage and relieve the pressure, in

this instance by making a free incision through the tympanic membrane. If there is doubt as to the presence of pus, and the tympanic membrane is not bulging, you may apply on cotton a three per cent solution of phenol in pure glycerine. This absorbs water from the congested tympanic membrane by the hygroscopic properties of the glycerine and aids in rendering the external auditory canal antiseptic, in case an incision has to be made later. It also has some soothing effect and often relieves the pain, especially when applied very warm. But above all remember that recurring attacks of earache in a child are an almost unfailing indication of adenoids in the fossa of Rosenmuller.

In the second division the treatment is so exclusively removal of the cause that no specific directions can be given.

1. Barr; Diseases of the Ear, 1909, page 53.
2. Alexander; Post-graduate Lectures, Vienna, 1911.
3. Phillips: Diseases of the Ear, Nose and Throat, 1911, page 200.
4. Politzer; Diseases of the Ear, 1903, page 170.
5. Loc. cit; page 56.
6. Hilton; Rest and Pain, 1876, page 77.
7. Turnbull; Diseases of the Ear, 1887, page 308.

THE PRESENT STATUS OF THE WASSERMANN TEST.

S. L. Cherry, M.D., Pathologist, St. Mary's Hospital, Clarksburg, W. Va.

(Read at annual meeting of State Medical Association, May 22, 1913.)

The development of the proper scientific understanding of syphilis is remarkable not only in its rapidity and thoroughness, but in the way it has brought back to the general practitioner a tremendous field hitherto taken from him by the syphilographer and other specialists. The discovery by Metchnikoff in 1903 of the transmissibility of syphilis to apes, followed by the discovery of the treponema pallida in 1905 by Schaudinn and the Wassermann test in 1906, placed syphilis definitely among the class of infectious diseases and led indirectly to the discovery of salvarsan by Ehrlich in 1910. Today a patient presenting himself with a suspicious sore or other symptoms can be diagnosed not only accurately but weeks ahead of the appearance of definite secondary symptoms.

It is my purpose in this paper to give a brief review of the Wassermann test and its application to diagnosis and treatment. The test depends upon the fact that when a syphilitic serum is mixed with its antigen the two in combination will absorb complement.

To prove that this has occurred we add to this mixture sheep corpuscles plus the serum of a rabbit immunized against these corpuscles. If the sheep corpuscles are not hemolyzed in a given time it proves that the complement used has been absorbd by the antigen and syphilitic antibodies in the serum of the patient. If hemolysis does occur the complement is still free, there being nothing in the serum of the patient to absorb it, since the amount of antigen used in the test cannot of itself produce any change. The exact biologic principles involved in the test are not exactly known.

It has been shown that we are not dealing with an antigen-antibody combination in the strict sense of the term. The combination is rather one of lipoidal substances present in the antigen with some unknown substance in the patient's serum. That this is the case has been shown by Noguchi. He has proven that when an antigen is used made of cultures of pure pallida only those sera give positive reactions in which genuine antibodies have been formed; in other words, in cases which have actually developed immune bodies in the blood serum. At any rate, innumerable tests done to date have fully demonstrated that the test is clinically specific and worthy of confidence.

We have to deal with five different ingredients in the work, and since the early days of the test the problem has been to so manage that the disturbing factors in any or all of these be avoided.

The greatest difficulty by far is encountered with the antigen. Wassermann originally used a watery extract of a fetal syphilitic liver. Later it was shown that antigens made from alcoholic extracts of normal organs, such as the liver, heart and kidney, gave positive tests with syphilitic sera. These normal organ extracts for a time enjoyed great vogue, but now the pendulum is swinging back and the syphilitic liver ex-

tract is preferred by most workers, either as a pure alcoholic extract or in the form of Noguchi's acetone-insoluble fraction.

There is no doubt that better results are gotten with syphilitic liver. According to Kolmer of Philadelphia with normal organ extracts ten per cent of positive sera give negative results. At any rate, one thing is certain—that if the antigen used is carefully selected and well standardized, and if the serum of the patient is tested for natural hemolytic amboceptors against the corpuscles used and due allowance is made for these if found, a number of weakly positive sera are found which would be otherwise negative.

If these two factors are carefully looked after by the worker, and if he uses positive and negative controls with each test, a positive test is practically positive evidence of syphilis, with a few exceptions to be shown later.

FINDINGS IN SYPHILIS.

The Wassermann test may be positive after exposure even before the appearance of the initial lesion. This is rare, however, and only about 40% are positive at the time of the appearance of the chancre, the majority of the rest becoming positive in the next four weeks.

Every case, with rare exceptions, is positive when secondaries are present. In the tertiary stage it may be safely said that every case with an active lesion is positive. Cases showing a positive reaction but no clinical symptoms must be regarded as active cases of syphilis, since these are bound, sooner or later, often within a year, to break out. A truly latent case of syphilis is one in which spirochetes are present somewhere in the body in an inactive state, while there are no clinical symptoms and the Wassermann test is negative. These cases are difficult to deal with, but sometimes a short course of mercury or an injection of salvarsan brings out a positive reaction.

In general paresis the test is positive in every case if the disease is progressive. In tabes dorsalis and cerebro-spinal syphilis the test is positive in about one-half the cases. If large amounts of spinal fluid are used (0.5 c. c.) for testing the results usually correspond closely with those of the blood serum.

The test has further been of value in pointing out the activity of syphilis in other conditions not heretofore emphasized. Thus Orkin found among 94 heart cases, excluding those due to valvular lesions, nephritis, etc., that 38.8% gave a positive test. Cummer and Dexter found the test positive in 70-75% of lesions of the aorta and aortic valve. Churchill found among 101 hospital children 14 cases of hereditary syphilis with no clinical symptoms but a positive Wassermann test. In hereditary syphilis the test is almost constantly positive from birth up. Leroux and Labbe found a positive reaction in 76% of the mothers of syphilitic children, showing that they were not immune as set forth in Colles Law, but were actually themselves syphilitic. Apparently healthy children born of syphilitic mothers showing a positive test are syphilitic regardless of clinical symptoms and must be treated as such. It is unjustifiable at the present time to employ a wet nurse without subjecting her to a Wassermann test.

POSITIVE TEST IN NON-SYPHILITIC DISEASES.

The test is frequently positive in leprosy and occasionally in measles, malaria, scarlet fever, yaws, lupus erythematosus, lead poisoning and a few others. Most of these are readily differentiated from syphilis clinically, and with improved technic these exceptions are diminishing. Considering the vast number of tests that have been made these exceptions are rare indeed, and it must be admitted by everyone that there is no other test more constantly present in any disease than the Wassermann test is in syphilis.

THE TEST AS A GUIDE TO TREATMENT.

The value of the test next to diagnosis is in the active treatment of syphilis. The plan of the present day is to convert a positive test into a negative one and to keep it so. A patient with no symptoms and a negative reaction six months after treatment has been stopped may be considered cured, though it is best to have another test at the end of another six months. The earlier the treatment is begun the sooner will the test become negative. The longer treatment is delayed or the longer the disease has progressed untreated or badly treated the more difficult is it to obtain a negative test. It is difficult to influence the test in hereditary syphilis. The ingestion of alco-

hol before the test may convert a positive serum into a negative one, and the patient should be warned of this before blood is withdrawn. Again the blood should not be tested while the patient is under active treatment, unless it is for the purpose of learning the effect of such treatment. A negative reaction is only of value when the patient has had no treatment for at least four weeks previous to the test. Some cases of syphilis, although all their symptoms clear up clinically, still show a persistent positive reaction. The ultimate fate of such cases time alone can tell. Many believe that such cases are candidates for the metasyphilitic affections.

COMMUNICATION.

FAIRMONT, W. Va., Aug. 25, 1913.

EDITOR W. VA. MEDICAL JOURNAL.

In a former personal letter to you I suggested that West Virginia is very much in need of a home or school for feeble-minded children, and the thought came to me that perhaps a discussion of this subject through our State Medical Journal might bring out some interesting views along this line from the different physicians in the state, so am giving you my views.

In my practice of medicine of eighteen years and health officer and county physician in this county for three I find that there are quite a number of these unfortunates in every county of our state, and as is well known we have no place to school and train children of this type. It seems to me that West Virginia should have an institution of this kind where these children could be trained to be self-sustaining wards of the State.

In a communication from our Governor I have the assurance that he will do all he can to assist our Legislature in working out a plan to provide such an institution.

Now since West Virginia has taken an advanced stand along the line of preventive medicine, it seems to me it is up to the State Board of Health, with the aid of the county health officers, to formulate some plan to put our great State on an advanced line of work of this kind.

I have written Dr. Golden, who has the program in charge for the November meeting of the State Board, suggesting that this question be discussed at that meeting, and if this can be worked up at that gathering of health officers we would be in shape to go to our Governor with the encouraging news that such an institution is needed, when, it seems to me, our Legislature would give our suggestion some thought.

Children of the type referred to could be trained to do different kinds of work in a home provided for such training under the proper kind of an instructor. I am sure it would be much better than sending this class to our insane asylums.

An institution of this kind in connection with our industrial school for boys at Pruntytown could be arranged, it seems to me, with very little expense and trouble.

I am aware it is necessary for West Virginia to have an orphan law, but I am sure this will become a law in this state in our next legislature if properly presented and urged, for we have long needed this court in West Virginia and I do not see how we can do without it much longer.

I hope that we will have the views of some of the other physicians in the state through the Journal and thus develop the subject.

Very truly,

L. N. YOST.

Selections

DIET IN TYPHOID FEVER.

F. J. Smith, M.D., F. R .C. P., Physician to the London Hospital.

Having ordered this medicinal or drug treatment the friends will of course put the inevitable question, "What may he eat?"

Inasmuch as this question, as I have already incidentally mentioned, dominates my whole contention and looms so largely in the minds of the patient and of his friends in many of the stages of the illness, it is well to consider its elements once for all leaving the practical applications to be noted incidentally as we proceed with the course of the disease.

Now in dieting any person who is acutely ill there are four elements to be considered:

1. The appetite of the patient or the wish for food.

2. The functional capability of the stomach for dealing with food.

3. The mere theoretical consideration of the dietetic calories necessary to sustain life.

4. Any digestive peculiarities special to the disease in question, in this instance the question of the intestinal lesions, and we will take up these points seriatim.

1. The appetite or wish for food. Almost invariably the first effect upon a previously healthy person of what is ordinarily termed "seediness" is a loss of appetite often amounting to a loathing for solid food: so common is this at any rate that it must be looked upon as a direct guiding line to an avoidance of such food. Equally common in such cases is a thirst above the average leading to a desire for frequent drinks, and to an appreciation of food which is of a sloppy or liquid character; in each of these directions, one negative and the other positive, we get imperative guidance for the diet of our patient. This is not quite all, however, for there may be a desire, not for food in general but for some special kind of food, and this is a point which is I think too much neglected. For instance, why should not soup, broth, beef tea, milk or even water be flavored with some sauce or condiment that the patient likes? If he asks for such flavor why should he be denied a little cooked fruit, jelly or scraped meat should he prefer these to milk or beef tea? I have searched works on physiology and dietetics in vain to find an answer, and failing such a scientific negative I have boldly allowed appetite to dictate to me and never regretted this stand in acute disease. How well I remember to this day the nausea caused in myself by toast water and gruel when all I wanted was a good drink of plain cold water.

2. The functional capability of the stomach. I am sufficiently teleological in my opinions to hold very firmly that in the economy of nature, appetite means the readiness of the stomach for food as well as capability of that organ for dealing with a reasonable quantity of the desired articles (I am not here of course considering organic disease of the stomach, nor dealing with the pathology of dyspepsia and other curious nerve conditions, pregnancy, etc., all of which offer many exceptions to this rule). Nausea and even vomiting are just as much functions of the palate as they are of the stomach, if indeed not more so, and the incidence of an infectious fever, such as typhoid, does not weaken this connection of palate and stomach, but on the contrary rather exalts it and makes it imperative on us to study the wishes of the former lest we should upset the latter, for nothing can be worse for a typhoid patient than nausea, vomiting and distention of the stomach. I have therefore in dealing with typhoid patients always before me a cardinal rule to allow the appetite of the patient to be within very wide limits indeed as regards quality, but not so freely as regards quantity, the sole arbiter of the diet. The temperature I entirely ignore in the matter, feeling absolutely certain—and finding by experience that no harm has ever resulted—that if the wish for food exists the stomach is clean enough and strong enough to deal with the ordinary articles of diet chosen at the desire of the patient in moderate quantity, so that which gets into the intestine will do no mechanical damage to the walls of that viscus.

While thus stating so emphatically my belief in a liberal and varied dietary when appetite asks for it and other circumstances allow it, I must equally emphatically present the other extreme, viz., that in which the appetite is completely in abeyance. I am quite confident that during the active ingravescent stage and the height of the fever in cases that are moderately or very severe, the digestive function of the stomach and probably of the intestine too is very seriously interfered with. I am sure that during this time the only food that can be dealt with is plain cold water: nature herself proves this to a demonstration by depriving the patient of any appetite or wish for any food. Experience of full stomachs in the post-mortem room also strongly supports the view. We are too much afraid of thus starving our patients. We may lead a horse to water but we cannot make him drink, we may pour food into the alimentary canal but we cannot make that canal digest or absorb it: nature starves the patient, if we do not witness the universal wasting in all severe continued pyrexial diseases, and the food we put into the stomach travels only slowly, decomposing as it goes, causing

great discomfort, if not threatening actual danger. The idea of feeding a patient in the so-called typhoid stage, dry brown tongue, semi or total delirium, etc., on anything but water is to me repugnant in the extreme.

3. The theoretical consideration of dietetic calories necessary to sustain life. It is only necessary to touch on this point in so far as it has a bearing on the question of how long it is possible or desirable to keep the patient on cold water only? It is generally and, I presume, correctly asserted that 30 calories per kilo of body weight per diem are necessary to maintain the body weight and vigor while lying in bed, but however true this may be from a strictly scientific point of view it is very demonstrably untrue from a clinical and practical point in cases of acute illness in which there is no necessity nor desire to maintain either weight or vigor, as indeed Succi and other fasting men have proved it to be false even in health. Failing then any scientific basis for my line of treatment I can only rely on experience, and here I am on very secure ground. I cannot speak definitely as to extreme limits, but I can say that I have kept up this treatment for four or five days with the happiest of results and have never found that I have continued it for too long a period, though on one or two occasions I have wished that I had persisted in it for a day or two longer. The wish of the patient for food—in other words his appetite—has been my sole reason for stopping it of my own will, though I have reluctantly yielded to the solicitations of friends who feared that the patient would die of exhaustion, a fear which I am now quite convinced is totally unfounded.

(Case II. of my deaths deserves a word of special mention in this connection. He was admitted on the 21st day of a severe attack and was in a dreadfully exhausted and septic condition with commencing tympanites. I put him at once on water diet and he improved a good deal, but was so exhausted and weak that even I got frightened and allowed him some food, but unfortunately he could not digest it and the tympanites recurring, he died of exhaustion from toxemia, not I believe from exhaustion of starvation.)

4. Digestive peculiarities special to the disease. What I have hitherto written about appetite, condition of stomach and water diet may of course be applied to all acute febrile conditions, and as a matter of fact are so applied in my practice in such troubles as acute pneumonia, tuberculosis, pleurisy, bronchitis or bronchopneumonia, etc. We have now only to take into consideration ulceration special to typhoid and discuss whether it can be adversely affected by my methods.

There is a universal consensus of opinion that inflamed tissues should be kept at rest as much as possible and especially so when a separation of a bowel slough and possible consequent hemorrhage or perforation are to be feared. Hence it naturally follows that broadly speaking we should attempt to give the intestine as little work to do as possible, i. e., to reduce peristalsis to as small a dimension as is compatible with due nutrition of the body.

Admitting this, we must still remember that typhoid ulcers are of extreme rarity (I have never seen one) so close to the stomach as within say 12 feet, so that if the stomach and these 12 feet of intestine are still capable of some, it may be impaired digestive power, we have a reasonable channel of entrance of diminished amounts of food into the system.

The two alternatives then with which we are confronted are (1) to keep the ulcerated gut clean and empty or (2) to put into it only material not calculated to injure it.

With regard to the first of these alternatives a moment's consideration shows it to be strictly speaking impossible, for the natural epithelial denudation of mouth, esophagus, stomach and gut with the saliva, mucus, gastric juice, bile, pancreatic secretion and succus entericus must in combination form some waste or useful material which has to pass along the canal; probably my water treatment comes as near the ideal of an empty gut as it is possible to get, but certainly two hour feeds of milk do not do so.

If, then, something has to be passed along the gut by peristalsis we come to the second alternative, viz., to see that this something shall not by its physical qualities be calculated to damage the ulcerated gut wall.

To thresh this out completely would, of course, be to write the whole physiology of

digestion, but I think the broad outlines are sufficient for our purpose and these teach us that given a fair working capacity to the teeth. tongue, stomach and upper 12 feet of the intestine, none of the ordinary articles of diet taken in small quantities ever reach the lower ileum in any other condition than that of a puree or soft pasty condition. I must, however, again draw attention specially to the forbidden articles already mentioned when dealing broadly with my line of management, viz., orange pips, grape stones, the small hard seeds of some fruits, such as currants, gooseberries and strawberries, and especially too the hard flaky pieces of the core of an apple and the contained seeds; a fish bone is specially dangerous, probably also the sharp almost flinty particles of husk found in oatmeal or in whole meal bread, as well as nuts, which are not advisable, although the teeth have more to do in their preparation for food than any other part of the canal.—*American Practitioner.*

PRACTICE BUILDING IN THE COUNTRY AND SMALL TOWN

It requires something of a man to make a real success in practice among up-to-date farmers; it is a man's job for real men. And one reason why so many fail is the same as in other lines of endeavor—they start out with the expectation of a country practice being merely a stepping stone to one in the city. Half-hearted practice in the country will make a third-rate doctor of a man even more quickly than it will in the city, where mere association with other medical men makes retrogression slower.

Initiative and energy are necessary to make one even temporarily successful in a country practice, and if he has these qualities in large degree he will find so great an outlet and reward for them there that the probabilities are he will never remove to the city. Why should he? But we are not going to argue that question. Both city and country practice are good, each for the man temperamentally adapted to them.

Don't change from one sort of location to the other without good reason. The young doctor who considers it a step downward to practice in the country is making a grievous mistake, and he will unconsciously assume an attitude alien to the sentiment of his rural neighbors. Good country regions average just as high in appreciation of scientifically practical medicine as do good city districts, while a progressive doctor is as little sought out in ignorant city circles as in similar country ones.

The thing to do is to select a community of intelligent and normal-thinking people; whether they are in the city or country makes little difference. The good farmer dislikes going to live in a community of slipshod farmers, and the well-equipped doctor has an equally discouraging experience among this latter class. Of course a good farmer or a capable doctor has a missionary career ahead in ignorant communities, but if either the doctor or the farmer hope to make money he should go where the missionary work has been already done.

The physician entering village and country practice owes the best that is in him to his community; people expect it of him in both city and country. Human nature is the same in both places, and country people read the same books and papers as do their city cousins.

Don't for one moment think that a fully equipped office is wasted in a community of intelligent farmers or village dwellers. We were ourselves equipped with a good microscope, electro-therapeutic appliances, etc., when in town and country practice. Our present city patients are not one-half as much interested in these things as were our rural patients. But one mistake some country physicians make is to have showy furniture and delicate appliances in their front office, which catches all the mud and litter incident to all kinds of people coming and going in all sorts of weather. Room is not so scarce in the country and village and the doctor there should have at least three rooms for his work; and the front one, if too dainty, will keep out many a good-pay patient, wearing muddy boots, but who, at the same time, keenly appreciates the scientific appliances he knows are available.

Country folk are vastly dependent upon their doctor; if he is the right sort, he is invaluable to them. And the satisfaction of practicing where one knows he is needed and appreciated is no small thing. Many a discouraged city physician would be regen-

erated in three weeks if his patrons looked to him in the same way. Ella Wheeler Wilcox says: "A woman is happy if she thinks other people consider her pretty; a man is happy if he thinks other people consider him important."

The country doctor only has to *make himself* important, and he will be so considered; the city doctor is dependent largely upon *other people* making him important, and they are too much interested in "the other fellow" to care. For this reason, if for no other, a little better education, a little finer equipment, just a few more books, a couple more good medical journals than has your competitor in country practice may spell the difference between being important and only half counting in public esteem. Don't think you are hiding your light under a bushel if you are engaged in country practice. Perhaps you have little idea how easily one is lost in the crowd, of how little the big city really cares or can care. City people are essentially good and thoughtful, just like the country folk; but oh, the hurly-burly of it all! One is trained in the city to forget; there is too big an environment for one to remember all the things coming into his life.

Some physicians entertain the highly erroneous view that country people will not care for him unless he knows a lot about practical farming. Nonsense! What do they employ him for—to help them farm or to get them well? Let a country physician develop more talent for farming than for medicine and there is a good opening there for a new man. The average farmer would rather tell *you* how to farm than to have you tell *him*. Be a good listener, and you will soon know all the farm lore you will need in order to hold a country practice. The farmer wants you to talk about medicine and current news. If you keep an eye on the grain and cattle market when you go to town, he will think more of you than if you show him how to *raise* grain or cattle. Selling well is the hardest end of farming.

Of course it does not hurt to understand agriculture and to invest your savings in near-by farm lands, but a side-line of an agriculture nature, as we have said before, is for the doctor for whom increasing years justify semi-retirement from active driving practice and night calls.

The country physician usually lives in a village or small town, and he should make himself one of the principal men there; there is no reason why he should not be. It is a fact, proven by common observation, that the average country physician is the superior in education and ability of the average country clergyman or teacher. But what a physician is in the country depends very much upon what his wife is and what they make of their children. Build yourself and your family firmly in the country, and you are very apt to build a firm practice. The country doctor needs a wife, and he should be worthy of the best girl in the township.

It is not safe to build too much upon the reputation of another man. If you are the "Old Doctor's" assistant for too many years after he dies some young hustler will move in and get the practice you expected to inherit. Country people like a doctor who is capable of standing upon his own feet.

It is always well to be active in your medical society, and take a trip to the State society meeting when you can afford it.

The successful country doctor *must* know vastly more about drugs than he is taught in medical college, and he builds practice and makes money by knowing these things. The average country doctor soon becomes a better surgeon than does the average city practitioner; he *must* do so. A capable knowledge of surgery is a splendid asset for the country doctor. Simplify your technic and "buck up" and you will be doing good surgery before you know it.

Country neighborhoods indulge in petty fusses for military purposes and the excitement incident thereto, but the doctor makes a mistake if he mixes into social, church or political fights. It is not wise to be a horse fancier or expert. Country people either "do" you in trade, considering you fair game, or will think you have a yellow streak in your make-up.

Expect farmers to pay up; there is little excuse for real poverty upon the part of an able-bodied man in the country, and your farmer neighbors will not thank you for helping to make a dead beat of the lazy chap who will not work unless he has to. Don't start taking your pay in second-cutting hay,

tough cordwood or inferior vegetables, for that is what you are apt to get when you cease to demand money. But if crop failures, hog cholera or other disaster makes hard times with your patients, get right into the same boat with them like a man. Next year will be better.

It pays to keep an automobile and have a telephone. Be a good roads booster. One builds practice by being always a gentleman, especially under provocation to be otherwise. We should be courteous to our competitors and invariably help them out, when they need us; we may need help ourselves some day.

The country doctor is expected to be an out and out *man,* insistent for his own rights and those of the community. It does not pay to cringe or fawn or to run after fads or follies. Practice is not built by sermonizing; all kinds of people need our services, and it is more important that we treat gonorrhea well than clergyman's sore throat. The country doctor can be more useful in making the officials do their duty than in running for office himself.

Be "a man among men," a gentleman among women, a sphinx among gossipers, and always and everlastingly a *doctor*—and practice will surely come and stay with you. —*Medical Council.*

STRYCHNIN IN LARGE DOSES.

Hartenberg regards strychnin as the actual specific for all nerve insufficiency. It acts as a tonic and not as a stimulant, he says, fortifying without irritating or depressing. In this it differs from alcohol, kola, coffee and tea; even in large doses strychnin does not engender motor restlessness, abnormal irritability on the part of the brain nor emotional excitement. Even when a fatal dose is taken, death occurs without loss of consciousness or psychic excitement or delirium. He has made a special study of its therapeutic dosage and has become convinced that the dosage generally in vogue is altogether inadequate. To obtain its full effect strychnin should be given in the largest dose which the individual can tolerate. This maximum varies with different persons, but it is indicated by a very exact criterion, namely, the appearance of the physiologic reaction. This physiologic reaction is in reality the sign that the system is under the influence of the drug, the first manifestation of strychninism. It may take the form in one person of slight intoxication, in another of slight dizziness or rigidity of the jaws or of the limbs. Any one of these phenomena is an indication that the physiologic limit has been reached, and the aim should be to reach it. He has found strychnin sulphate the only reliable form. He insists further that the action is more reliable and thorough when the strychnin is given by subcutaneous injection. The above signs showing that the physiologic limit has been reached come on ten or fifteen minutes after the injection and last for half an hour or an hour. Sensitive persons might remain seated for the first half hour after the injection, in which case they will scarcely notice the physiologic reaction. It generally appears after a dose of 1-10 gr. in women and 1-9 gr. in men, although men weighing 100 kilograms may be able to take up 1-6 gr. before the reaction is evident. The same dose repeated after a few days no longer elicits the reaction, and the dosage has to be progressively increased in a cautious tentative manner, questioning the patient each time. The patient soon learns what to expect and is soon a competent guide to the dosage.

By proceeding in this way the patient can stand large doses, 1-6 gr. even 1-3 gr., without his experiencing any more of a reaction than the first time, especially if he remain seated for half an hour after the hypodermic. Hartenberg adds that strychnin is rapidly eliminated—contrary to what is taught in the text-books. The elimination does not require more than three or four hours. He has proved this again and again by injecting the same dose again six hours later, finding that the physiologic reaction is no more pronounced after the second than after the first injection. He has thus given two or three injections of 1-6 gr. or even ¼ gr. in one day without any inconveniences. The main indications for this intensive strychnin treatment are neurasthenia, debility, cachexia, convalescence from severe disease, anemia, diabetes, cancer and all conditions of "physiologic penury," in addition to its primal indication in all affections of the spinal cord or nerves entailing hypotonicity, weakness and atrophy of the

muscles without a tendency to contracture. The action of strychnin in regulating and co-ordinating reflex mechanism proves particularly useful in tabes, in neuritis and in all forms of amyotrophic paralysis. Of course hypertension in the arterial system, delirium and spasmodic contractures naturally contra-indicate strychnin. This intensive treatment has absolutely no inconveniences, he insists, reiterating that even in this progressive administration there is not a shadow of danger. He has thus given thousands of injections during the last ten years to patients of all classes, delicate women, children and old people, and has never witnessed even a menace of a mishap. All tolerated to perfection the dose graded to their individual sensitiveness. In conclusion he states that as strychnin does not induce any immediate excitement or pleasurable sensations there is no danger of breeding a habit, and there is no discomfort when the drug is abruptly suspended at any time. —*Hartenberg in Presse Medicale—J. A. M. A.*

CROTALIN IN THE TREATMENT OF EPILEPSY AND NERVE DISORDERS.

Since the introduction of the hypodermic use of crotalin in the treatment of epilepsy by R. H. Spangler in 1910 many favorable reports concerning the use of this agent in epilepsy as well as in other functional nervous disorders have appeared from time to time. The latest of these reports, by J. B. Woodruff (*New York Medical Journal*, Jan. 11, 1913), is in full accord with those which attribute to it marked beneficial effects upon certain nervous diseases.

Crotalin is the dried venom obtained from the species of snake named Crotalus horridus, or rattle-snake. This complex, scaly substance is purified, sterilized and diluted in various required strengths and then placed in sealed ampoules. The stated dose of the drug is 1-250-1-25 grain. The chief constituents of crotalin are said to be "hemorrhagin" (90%), which has a special affinity for the endothelial cells of the blood and lymph-vessels, and "neurotoxine" (10%), which has an affinity for the cells of the nervous system.

Although the definite therapeutic action of crotalin is not as yet understood, Woodruff is of the opinion that its ability to block undue outside stimulation on the nerves of special sense, is one of its chief effects. This is shown in cases of insomnia in which the drug causes a refreshing sleep without signs of narcotism.

Since patients treated with injections of crotalin show a marked improvement in their general condition and well-being, Spangler believes that it has a decided influence in revitalizing the functions of various organs. Woodruff has noted in several cases a marked leukocytosis following the injection of crotalin, the leukocytosis occurring about the fourth day after injection. To this he attributes the beneficial effects obtained by some in the treatment of tuberculosis by means of crotalin injections.

It is, however, in epilepsy of the so-called idiopathic type that crotalin has given the best results. Epilepsy resulting from trauma or other causes is little, if any, benefitted by the drug. According to Spangler, Tachenheim, Woodruff and others, crotalin treatments will modify the severity of epileptic attacks, often changing their character from "grand mal" to "petit mal." The intervals between the attacks will be lengthened and the mentality of the patient will be much improved.

The initial dose of crotalin for an adult suffering from epilepsy is 1-250 grain given hypodermically, preferably into the posterior aspect of the arm or into the back. The injections should be given deep into the tissues or into the muscles. The injections are often followed by a marked inflammatory reaction and rather severe pain at the site of the injection. This lasts from two to five days and then disappears. The size of the dose and the susceptibility of the patient largely determines the severity of the reaction. The pain and swelling, according to Woodruff, is best allayed by application of the ice bag and wet compresses of a saturated solution of magnesium-sulphate. There is as a rule no general reaction following the injection of the stated doses, providing that they are given as directed and not oftener than once in every five to seven days. Woodruff has never seen an untoward effect follow the injection of crotalin. Nevertheless, a fatal case

following the too frequent injection of the drug in a child has been reported (Merck's Annual Report, 1912).

Certain forms of tics, neuralgias, sciatica and other conditions of the nervous system are said to have been markedly benefitted or cured by means of crotalin injections. When used in these conditions Woodruff advises that the dose should not exceed 1-150 grain, especially when the injection is given about the head or neck. The injection should be made in the vicinity of the affected nerve, but not into the nerve, and care should be exercised that no blood vessel is entered.

Amongst other conditions reported as being favorably influenced by the injection of crotalin are asthma (of nervous origin), in which Woodruff states that improvement was noted in every case in which it was tried; and cases of debility associated with nervousness and insomnia.—*Medical Review of Reviews.*

INFANTILE DIARRHEA.—R. O. Clock New York (*Journal A. M. A.*, July 19), reports the results of the treatment of infantile diarrhea by the intestinal implantation of the *Bacillus lactis bulgaricus*, in a hundred and seventeen cases at the Babies' Hospital, New York, in the summer months of 1912. One hundred and sixteen patients recovered. The case of the one that died is reported. It was a severe case of enterocolitis, of two weeks' duration before treatment. Seventy-two of the one hundred and sixteen cases that recovered returned to the dispensary the following winter with some other affection, and their recovery from the diarrhea was therefore assured. The remaining forty-four patients were looked up by a visiting nurse; three had moved out of the city and could not be followed up, but the remaining forty-one were in good health. The babies varied in age from six weeks to two and a half years, and the average period of time that the disease had lasted before treatment was one week; the shortest two days. The intestinal cases included four cases of enterocolitis and 113 of gastro enteritis, of which forty-seven only were mild and fourteen were toxic. The treatment consisted of the administration of a pure culture of true *Bacillus lactis bulgaricus*—Type A, the organism of which was imported through the Johns Hopkins Hospital and elaborated in tablet form. One or two tablets were usually given every two or three hours, but in severe case two or even three tablets were given every two or three hours before and after each feeding, making a total in some cases of forty-two tablets a day. The details of the improvement are given, both as to the gain in weight and the control of bowel symptoms. The important facts standing out in the results of this treatment are summarized by the author as follows: "1. The gain in weight, in spite of the number of stools. 2. The rapid change in color of the stools to yellow. 3. The rapid subsidence of fever. 4. Absence of mucus and blood from the stools at the end of forty-eight hours. 5. The fact that the hygienic surroundings of the patients and the degree of intelligence of the mothers had no influence on the results. 6. A starvation diet, accompanied by purgation, is productive of loss of weight and strength, and serve to prolong the course of the disease; and further, such a procedure can no longer be advanced as a rational method of treating infantile diarrhea. 7. Digestive powers in infantile intestinal conditions, even when associated with fever, are not so impaired as to prevent the digestion and assimilation of a milk diet. This fact is corroborated in typhoid fever where the high caloric diet, in contrast to the starvation diet, has reduced the mortality to a remarkable degree. Moreover, the cases herein recorded prove the value and rationale of continuing a milk diet in infantile intestinal conditions, as illustrated and emphasized in the diagram of weights. 8. In severe cases best results are obtained by administering a large number of the tablets during the first two or three days of the treatment. As many as forty-two bulgaricus tablets in twenty-four hours have been given to very young babies without untoward effects. 9. The implantation method of treatment has progressed beyond the experimental stage, and the results of its use can be no longer questioned or disputed. This treatment has been proved of practical, clinical and scientific value; and its simplicity should appeal to every practitioner. 10. In order to secure the best results in using the implantation treatment, a pure culture of the true *B. lactis bulgaricus* must be employed; otherwise, disappointment will follow. Bacteriologists recognize the fact that the same organism isolated from different sources, will vary in its virulence and in certain other characteristics; and the *B. lactis bulgaricus* is no exception to this rule. While similar organisms have been isolated from the soured milks of several eastern countries, namely, Russia, Egypt, Armenia, Syria, etc., yet the bacillus isolated from Bulgarian soured milk has been proved to possess the greatest antagonism to putrefactive bacteria. Moreover, in using a culture of this organism for implantation treatment, it is essential that the culture show only viable organisms and that these be present in sufficiently large numbers. Without doubt, it has been the lack of a pure active culture of this bacillus in viable form, that has been the cause of the indifferent results obtained in previous years with lactic acid bacterial therapy."

Needle thrusts are often only slightly painful, and thus it occasionally happens that there is buried in the tissues, a fragment of needle, the entrance of which the patient did not appreciate or has quite forgotten.

The West Virginia Medical Journal

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WHEELING W. VA., SEPTEMBER, 1913

THE JOURNAL is issued on the first of each month.

Subscription, - - - - - - $1.00 per year
Single Copies, - - - - - - - 15 cents

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Editorial

BABIES II.

In the preceding issue of the Journal we descanted somewhat on the subject of infant mortality—its appalling ratio to the total mortality for all ages—and indulged in some questioning as to whether such ratio was really fixed and inevitable; if, in the very nature of things, it had so to be. The fact of this great excess of infant mortality is no new discovery. It has been common knowledge as far back as the time when vital statistics began to be drawn upon for our enlightenment, and the ratio has run along pretty evenly until now. With such trifling variation has this continued, it would almost seem to indicate that there might be something which determined it that was inherent in the conditions existing at birth and during the early stage of functioning of the vital organs, that unfitted this large proportion of infant life for continued vitality.

It is hard to accept such an assumption. Nature not infrequently sacrifices the individual in this wholesale way, in order that the survivors may be better cared for, but only in cases where the production is so prolific that the necessities for sustenance and development greatly exceed the total available supply. In the human species no such condition exists. Room and food and shelter and care are possible in greatest abundance, and unless there actually does exist an ineradicable weakness at birth which bars a continuance of vitality, we ought with these advantages to be able to do a great deal in lessening this infant holocaust. Dr. Wilbur, in the 1908 Report on Mortality Statistics of the Department of Commerce and Labor, published in 1910,* says "that there is apparently no reason why infants, if properly born (and this means simply the prevention of ante-natal disease and the improvement of the health and conditions of living of their parents), should die at all in early infancy or childhood except from the comparatively small proportion of accidents that are strictly unavoidable." If this be true, to what a terrible indictment must our civilization plead. Proud and boastful as we are of it, it fails lamentably and ignominiously in its most vital function—the conservation of the material upon which its continuance must depend. As a first step in the effort to remedy this state of affairs we should seek to discover the causes and conditions productive of this frightful mortality and endeavor to determine what of them are avoidable, what remediable, what mitigable and what controllable. To do this necessitates an excursion into the realm of vital statistics. Fortunately, in this instance, they are neither so dull nor so misleading as is sometimes the case. An examination of the fol-

*This report is compiled from data gathered from the Registration Area, which in 1908 represented about half the population of the United States. All the tables and statistics in this article, as well as the one preceding, are made up from it. For the entire population of the United States the figures should approximately be doubled.

lowing tables ought to help us in our undertaking:

TABLE I.

	At All Ages.	Under 2 Yrs.	Per Cent of Total Under 2 Yrs.
Total deaths from all causes, exclusive of still births, for 1908	691,574	176,680	25.5+
From general diseases	186,264	18,881	10.1+
From diseases of nervous system	71,090	11,772	16.5+
From diseases of circulatory system	80,607	1,508	1.8+
From diseases of respiratory system	81,758	27,767	33.9+
From diseases of digestive system	89,643	49,626	55.3+
From diseases of genito-urinary system	51,717	1,004	1.9+
From diseases of skin	2,817	533	18.9+
From diseases of locomotor system	1,418	502	35.4+
From malformations	6,907	6,707	97.1+
From ill-defined causes, as dropsy, heart failure, unknown, etc	13,507	8,089	59.8+

TABLE II.

		Per Cent
Deaths under 2 years from general diseases	18,881	
Caused by—		
Measles	2,655	
Scarlet fever	910	
Whooping cough	3,918	
Diphtheria	1,939	
Croup	525	
Tuberculosis, lungs	1,335	
" , meningeal	1,808	
" , abdominal	337	
Venereal diseases	1,692	
	15,139	80.1+
From diseases of nervous system	11,772	
Meningitis	3,919	
Convulsions	5,860	
	9,779	83. +
From diseases of respiratory system	27,767	
Bronchitis, acute	5,218	
" , chronic (?)	181	
Bronchopneumonia	9,962	
Pneumonia	10,918	
	26,279	94.6+
From diseases of digestive system	49,626	
Diarrhoea and enteritis	44,521	89.7+

Table I gives deaths under 2 years from general diseases, 18,881, a little over 10% of the total for all ages. By table II we find that a little over 80% of these are from the acute or chronic infectious diseases. It would seem that, with the resources of modern sanitation and medical science, this total could be reduced almost one-half. Diseases of the nervous system cause 11,772 deaths under 2 years, 16.5% of total for all ages. Of these 9,779, or 83%, were caused by meningitis and convulsions. Diseases of the respiratory system caused 27,767 deaths under 2 years, nearly 34% of total for all ages. Of these 26,279, or 94.6%, were caused by acute and chronic (?) bronchitis, bronchopneumonia and pneumonia. Whether better medical supervision and nursing could reduce this number very materially may be questioned. But undoubtedly better care in matters of clothing, shelter, ventilation and exposure would diminish very greatly the incidence of these diseases. Diseases of the digestive system caused 49,626 deaths under 2 years, 55.3% of total for all ages. Of this number 44,521, almost 90%, were caused by diarrhoea and enteritis. Of these 37,049 were under one year, 7,472 between 1 and 2 years. This enormous total points plainly, unmistakably to dietary sins. It would be possible to eliminate it almost entirely if the march of our civilization were governed by ideal precepts. It seems strange—the very "irony of fate"—that this most puissant destroyer of infant life should be the one that provident nature took the greatest precaution to ward off by providing, through the medium of the mother's breast, an ever ready, suitable and sufficient food supply for these helpless little ones. Civilization, or something, has sadly traversed this beneficent scheme of nature's and opened a way of entrance to this chief slaughterer of the innocents. Of the other causes of death in Table I it is necessary to say but little. Their total is relatively small. The two causing by far the highest number, malformations and illy defined causes, will most likely continue to be responsible for their present ratio of deaths. It is very different, however, with the four great groups that cause the greatest mortality. The aggregate of deaths attributable to these is 108,046 out of a total of 176,680. That a very large percentage of this mortality could be and ought to be prevented is as good as demonstrated. Prof. Irving Fisher

in a Report on National Vitality, its Wastes and Conservation, gives the following estimates:

"Out of every 100 deaths that occur from each disease in which the median age at death is under 5 years there could be prevented the following numbers: Premature birth, 40; congenital debility, 40; venereal diseases, 70; diarrhoea and enteritis, the most important cause of infant mortality, 60; measles, 40; acute bronchitis, 30; bronchopneumonia, 50; whooping cough, 40; croup (which means diphtheria), 75; meningitis, 70; disease of larynx, other than laryngitis, 40; laryngitis, 40; diphtheria (under its proper appellation), 70; scarlet fever, 50. From this we see that out of every 1,400 deaths from these causes 715, or a little over 51 per cent, are preventable. Having thus uncovered the sources from which this swollen tide of needless and avoidable mortality flows, it is in order to see if some edifying lessons cannot be drawn therefrom. The limitations of space forbid attempting this just now.

L. D. W.

THE STATE BOARD OF HEALTH.

The editor with his new office of Secretary of the State Board of Health may be likened to a child with a new toy. He is certainly deeply interested in it. He has long felt that there should be a closer relationship between the State Medical Association and the Board of Health. All members of the Association who have the proper professional spirit should certainly be deeply interested in whatever makes for the public health. The Board of Health has heretofore been little more than an examining board. The reason for this is plain. The Board has had no appropriation with which to advance the interests of the public health. The last Legislature, no doubt largely through the influence of Governor-elect Hatfield, an honored member of our profession, was induced to make a quite liberal appropriation for public health purposes. The Board's powers were also greatly enlarged. It was given authority, as told in our last issue, to organize a State Hygienic Laboratory, for which a committee was appointed at its last meeting. When in operation we expect this laboratory to be of vast benefit to the public and to the profession also. Already the Secretary has had numerous requests for the analysis of drinking water, and our readers can readily see the various ways in which such an institution can prove a blessing to the people. The Secretary desires the profession to feel that while he is the servant of the public, it is through the medical profession and its sanitary officials that the people can be best served. We have a Governor who is intensely interested in the successful operation of the amended health law, and he has shown to the Secretary in a number of ways that he "expects every man to do his duty." The President of the new Board also is imbued with the sense of his responsibility to the public and has already shown to the Secretary that he is in hearty sympathy with our excellent Governor in his earnest desire to promote the interests of public health. We trust that the members of the profession, and especially the County Health Officers, will feel at liberty at all times to communicate their desires or suggestions to the Secretary, whose pleasure it will be to give prompt attention to all communications received by him.

The amended health law provides that "it shall be the duty of every county or municipal health officer to meet with the State Board of Health or its representatives at least once every year, * * at such time and place as said board may designate, to attend a school of instruction for the purpose of familiarizing such county health officers with their duties in the interest of the public health." In compliance with this provision of the law the State Board has determined to invite about one-half of the local health officers to meet with it at Parkersburg in November next, and President Golden of the board has been appointed to prepare a program for that meeting. No doubt he will be glad to have suggestions as to the matters which the health officers desire to have discussed. If not all can have their wishes gratified at this first meeting, there will be later meetings for like purpose, and we are sure that all of us will be benefited by such gatherings and the exchange of views that will take place. Not all wisdom and knowledge reside in the membership of the State Board, and the

members will be learners as well as teachers.

It will be a comfort to the local health officials to know that the law also provides that "the actual expenses of the attendance of such county or municipal health officer shall be paid by the county or corporation represented by such local officer, upon presentation of a certificate showing the expense of such attendance, made by the State Board." It is hoped, therefore, that this first meeting may find all the local officials present who can possibly attend. Good cause for non-attendance must be presented to the State Board. Let us come together in the goodly city of Parkersburg determined to do what we can to promote the interests of public health.

S. L. J.

ADVERTISING PHYSICIANS.

The secretary of the State Board has received a lying advertisement from a paper in the southern part of the state, in which the advertising doctor promises, among other things, to cure appendicitis without the knife. Unfortunately this doctor is a licensed physician. The State Board can do nothing with such cases unless it can be shown that the advertiser is guilty of "dishonorable conduct." While the promise to cure when one knows he cannot cure by the promised means is, in the physician's view, always dishonorable, this would scarcely be good evidence before a jury; and until such evidence can be secured the board can do nothing. The local prosecuting attorney should be consulted in all doubtful cases, and sometimes it is possible to convict on a charge of obtaining money under false pretenses. All quacks live on false advertising. Try moral and other suasion on the editors. Not all of them are pachyderms. Get the ads out of the papers and the prosperity of the quack ceases.

We can save a little money for any one expecting to attend a post-graduate school in New York. Let us hear from you at once.

LETTER FROM EUROPE.

THE INTERNATIONAL CONGRESS.

Edinburgh, Aug. 17, 1913.

EDITOR WEST VA. MEDICAL JOURNAL.

I suppose you have had reports from the great meeting of the International Medical Congress, which met in London, August 6th to 13th, so that it is not necessary for me to write you any detailed report of the Congress, the greatest medical meeting in the history of the world. Albert Hall, with a seating capacity of 9,000, was full to overflowing when the Congress was called to order by the president, Sir Thomas Barlow. It was "a vast congress of learned men," as one distinguished speaker put it.

Apart from the academic, military or other habiliments they wore, members who gathered in Albert Hall had the appearance of learned men, and they hailed from every quarter of the European continent, from North and South America and the Eastern seas. Civilian dress was worn by the great majority, but many members appeared in academic robes and in military uniforms, giving a distinctly bright tone to the assembly as a whole. The scarlet and heliotrope of the English academic garb was decidedly in the ascendent, but in the matter of military uniforms the English seemed few in comparison with the diverse uniforms of the army surgeons of France, Germany, Austria and Italy.

On the platform could be seen the same diversity of costumes, mingled in picturesque array. One could pick out the black and gold, the scarlet and purple of the English academic dignitaries, the military uniforms of Germany and Prussia: but the most striking of all was the heliotrope silk robe worn by the distinguished Frenchman, M. Landouzy, as the dean of his medical faculty.

At 11 o'clock the strains of the national anthem given out by the great organ announced the arrival of Prince Arthur, Duke of Connaught, whom the King had deputed to perform the inaugural ceremony. Accompanying the Prince in processional order up the center of the hall were Sir Thomas Barlow, president of the Congress; Sir Edward Grey, Secretary of State for Foreign Affairs, the heads of various medical colleges and the chief officials of the Congress.

Prince Arthur addressed himself to the formal inauguration of the great gathering, announcing the King's message, affirming His Majesty's interest in the occasion and expressing his hope that the proceedings of the congress would redound to the advancement of medical science throughout the world. Then came Sir Edward Grey's welcome to the Congress on behalf of His Majesty's government. His every utterance was gracefully and thoughtfully expressed, and he laid stress on the fact that the cause of science rose above national rivalries, being truly international in its scope and essence. The way was being cleared, and Sir Thomas Barlow proceeded to deliver the presidential address, which, as expected, was a masterpiece.

As Dr. Herringhaw, the General Secretary, announced the names of the delegates and the

organist played a few strains of the national anthem of each particular nation, a delegate on the platform arose and made a short address—a good many in French, Italian, Spanish and quite a good many couched in English.

It was officially announced in the afternoon of the first day that the number of subscribing members to the Congress was seven thousand four hundred. There were twenty-three sections, presided over by men of international reputation with few exceptions. The meetings of the Congress were in Albert Hall, the University of London, the Imperial College and other buildings at South Kensington. In the Congress five languages were recognized, and members speaking a certain language indicated it by wearing a small flag, as, English, the Union Jack; French, red; German, blue; Italian, green; Spanish, yellow. I wore, naturally, the Union Jack.

The social side of the Congress was delightful for those who participated. A garden party was given by the King and Queen at Windsor Castle on Saturday afternoon.

In the great exhibits and in the museums in connection with the Congress, and in fact all through the Congress, Americans and American genius and enterprise were in evidence and appreciated.

Truly yours,

J. McKEE SITES.

State News

NEW HOSPITAL MEDICAL STAFF.

The following is the reconstructed staff of the Ohio Valley General Hospital (formerly City Hospital) of Wheeling, W. Va.:

Consultant Staff.

S. L. Jepson, M.D. L. D. Wilson, M.D.
G. A. Aschman, M.D. John L. Dickey, M.D.

Visiting Staff.

In Medicine.	*In Surgery.*
W. P. Megrail, M.D.	James Schwinn, M.D.
Andrew Wilson, M.D.	R. J. Reed, M.D.
H. A. Henderson, M.D.	E. A. Hildreth II, M.D.
W. H. McLain, M.D.	F. LeM. Hupp, M.D.
H. M. Hall, M.D.	W. S. Fulton, M.D.
M. Gaydosh, M.D.	N. A. Haning, M.D.
O. D. McCoy, M.D.	W. A. Cracraft, M.D.
J. W. Spillman, M.D.	O. M. Staats, M.D.
Thurman Gillespie, M.D.	C. M. Truschel, M.D.
R. U. Drinkard, M.D.	E. F. Glass, M.D.
	J. E. Burns, M.D.

To the Homeopathic Service.

John McColl, M.D.

Obstetrician.
R. M. Baird, M.D.

Opthalmologist-Laryngologist.
H. E. Oesterling, M.D.

Pathologist.
John T. Thornton, M.D.

E. A. Hildreth III, M.D.

Roentgenologist.
W. A. Quimby, M.D.

The two malpractice suits against Dr. Hugh Strachan of Blaine, W. Va., which were tried in Oakland, Md., were disposed of after trial in favor of the doctor. Material aid was given to the doctor by the Defense Committee of the State Association.

Dr. Link of Parkersburg, who has been quite ill, has recovered and is recuperating at Atlantic City.

The Surgeons' Association of the Pennsylvania Railroad Company, of which Dr. Linsz is president, holds its annual meeting at Atlantic City, September 19th and 20th.

Dr. J. McKee Sites of Martinsburg has been in attendance at the International Congress of Medicine in London, as have also Drs. Hupp and Burns of Wheeling and Louchery and Ogden of Clarksburg. We hope to hear from one or more of these members in letters to the Journal.

Drs. Louchery and Ogden, at the conclusion of the Congress, extended their visit so as to take in Paris, Switzerland and Germany. In a short note Dr. Ogden says: "In my opinion America leads so far as relates to medicine and surgery. They have nothing here about the surgical work to cause an American any envy whatever."

The editor has "greetings from the west coast of Scotland" in a note from Dr. Hupp at Oban, where we passed a night long ago and awakened to take a most stormy passage around the coast of Scotland to Glasgow, which came near to putting the Journal into other hands for its organization.

PARKERSBURG, W. VA., Aug. 4, 1913.

Dr. A. H. Casto of Sandyville, Jackson county, died July 31st, after a long, lingering illness. His age was 70 years. He had been one of the prominent physicians of Jackson county. He settled at Sandyville, that county, many years ago. Dr. Casto was a Confederate veteran, being unfortunate enough to lose a leg in the Civil War. He was for some years a member of the Little Kanawha and Ohio Valley Medical Society and of the State Society. Owing to ill health and inability to attend our meetings he retired from the society four or five years ago.

Medical matters are very quiet here, so few items to report.

S. P. L. Gray of Williamstown has been appointed assistant physician at the Hospital for the Insane at Weston.

Dr. Karl Steinbach has temporarily left Parkersburg on account of ill health. He will attend a course in post-graduate work before he resumes practice. W. H. SHARP.

STATE BOARD OF HEALTH.

At the April meeting of the board, held in Huntington, sixteen applicants for license appeared. Of these ten were successful, as follows:

F. J. Prunty, West Virginia, Belpre, Ohio; M. B. Williams, West Virginia, Wheeling, W. Va.; R. A. Ireland, West Virginia, Charleston, W. Va.; J. M. Spinks, West Virginia, Summersville, W. Va.; W. E. Riley, Tennessee, Gary, W. Va.; S. H. Cassidy, New York, Keyport, N. J.; J. R. Hughart, West Virginia, Burnsville, W. Va.; B. B.

Sturdivant, North Carolina, Harding, W. Va.; J. Q. Godbey, West Virginia, Charleston, W. Va.; H. Bernard, North Carolina, Huntington, W. Va.

Of the six who were rejected one came from each of these medical colleges: University of Louisville, Starling Medical, Illinois Medical, College of Physicians and Surgeons, Baltimore, Leonard Medical and Eclectic Medical.

By reciprocity the following were received:

J. A. Wright, Weaver, W. Va.; C. B. Wylie, Morgantown, W. Va.; J. C. Carper, Napier, W. Va.; G. W. Darling, Peytona, W. Va.; Thomas Slayden, Williamson, W. Va.; W. W. Estep, Williamson, W. Va.; A. J. Erskine, Steubenville, Ohio; C. S. Cowie, Richwood, W. Va.; C. M. Young, Shabbona, Ill.; G. L. Todd, Princeton, W. Va.; J. E. Womack, St. Marys, W. Va.; W. C. McCord, Mars, Pa.

The following is a list of the questions used:

Chemistry and Medical Jurisprudence.

1. To what salts to most cathartic minerals owe their virtue?
2. What are proteids? Name one.
3. What pathologic conditions produce bile in urine?
4. Mention several tests for sugar.
5. Give chemical antidote for silver nitrate, mercury bichlorid, Tr. iodine. What is formed?
6. Define oxidation and where does it occur in the body?
7. How would you determine organic matter in water?
8. How do gunshot wounds differ from other wounds?
9. Give the distinguishing marks between antemortem and post-mortem wounds.
10. Differentiate between dementia and hysteria.

DR. H. M. RYMER, *Examiner.*

Materia Medica and Therapeutics.

1. Convert liter, gram and c. c. into weights and measure ordinarily used in U. S. A.
2. Write a prescription containing four remedial agents.
3. What is normal blood pressure? Name two drugs that increase it.
4. Enteroclysis, hypodermoclysis: Describe them.
5. Tr. nux vomica: Give dose and per cent of strychnia it contains.
6. Iodine: Give therapy.
7. Air and sunshine: Give therapy.
8. Iron: Give therapy.
9. Digestive ferments: Name principal ones and give therapy.
10. Mineral acids. Give therapy.

DR. J. E. ROBINS, *Examiner.*

Bacteriology and Hygiene.

1. State the agencies by which the body protects itself against the entrance and bad effects of pathogenic bacteria.
2. State the products of bacteria. Give functions.
3. Define spirilla, bacilli. Illustrate.
4. Name the important pathogenic diplococci.
5. Name the most common sources of infection in diphtheria.
6. State the chief sources of contamination to drinking water.
7. What precautions are necessary to insure healthy sleep? What gases accumulate in improperly ventilated sleeping rooms?
8. How would you prepare an artificial food for a new-born infant?
9. Describe the effects of a cereal diet.
10. Give a proper diet in the case of diabetes mellitus.

DR. A. N. FRAME, *Examiner.*

Surgery.

1. Classify tumors and give the theories concerning their origin.
2. Discuss the indications for drainage and describe two drains in common use.
3. Give the early symptoms of carcinoma of the stomach and describe in detail one of the laboratory tests which is helpful in the diagnosis of the same.
4. Describe ligation of the middle meningeal artery near its point of bifurcation, including the topography on the exterior of the skull.
5. State the ways in which a fracture of the olecranon process is produced and give its symptoms and treatment.
6. Give the symptoms of the most common dislocation of the hip joint and describe one method of treatment by manipulation.
7. Describe in detail an amputation of a finger at the metacarpophalangeal joint.
8. Discuss the etiology of peritonitis.
9. Give the symptoms, differential diagnosis and details of surgical treatment of strangulated femoral hernia.
10. Define Fowler's position, Trendelenburg's position, appendectomy, choledochotomy, talipes equino-valgus, meningocele, aneurysmal varix, pylephlebitis, ranula, hypospadias.

DR. W. W. GOLDEN, *Examiner.*

Anatomy and Embryology.

1. Describe in detail the scapula.
2. What bones enter into the formation of the wrist joint?
3. Give origin and insertion of the biceps and triceps muscles.
4. Give the origin and branches of the femoral artery.
5. Give origin, course and distribution of the vertebral arteries.
6. Describe the coverings of the brain.
7. Give the divisions of the spinal nerves and the number of each.
8. Name the anatomical divisions of the abdomen and describe the linea alba.
9. Describe the gall bladder and name the bile ducts.
10. Describe the male urethra.

DR. L. S. BROCK, *Examiner.*

Practice of Medicine and Pediatrics.

1. In what cases would the opthalmoscope aid in diagnosis?
2. Of what import is the spleen in the diagnosis of febrile conditions? Define splenic dullness
3. Differentiate early pleurisy from intercostal neuralgia.

4. Make a diagnosis of aneurysm of the descending aorta.
5. Describe treatment of acute inflammatory articular rheumatism.
6. What diseases may cause occlusion of the common bile duct?
7. Differentiate the coma of opium poisoning from that of cerebral hemorrhage.
8. What treatment would you recommend for diphtheritic paralysis?
9. Give symptoms and treatment of whooping cough.
10. Give symptoms, complications and treatment of mumps.

DR. C. A. WINGERTER, *Examiner.*

Special Medicine.

1. Discuss heart murmurs. Differentiate organic and functional.
2. Define dyspnoea. Discuss its value as a diagnostic sign.
3. Diagnose and treat frontal sinus infection.
4. Diagnose and treat diphtheria of the nasal passages.
5. Diagnose and treat tuberculosis of the larynx.
6. Discuss aphonia.
7. Define diplopia, ptosis. Give etiology, diagnose and treat.
8. Define glaucoma. Diagnose and treat.
9. Give the etiology, diagnose and treat poliomyelitis.
10. Give the etiology, diagnose and treat chorea

DR. C. W. HALTERMAN, *Examiner.*

Obstetrics and Gynecology.

1. Give the dimensions of the female pelvis.
2. How would you treat a case of incomplete abortion?
3. Give the treatment of sub-involution of the uterus following labor.
4. Give the causes and treatment of puerperal septicemia.
5. Give some of the indications for version. How would you do it?
6. What is Crede's method of expelling the placenta?
7. Give the most common cause of pus tubes or pyosalpinx.
8. At what age does menstruation occur and name some of the causes of delayed menstruation.
9. Name some of the causes of incontinence of urine in women.
10. Name the causes of dysmenorrhea and give treatment.

DR. M. V. GODBEY, *Examiner.*

Physiology and Histology.

1. Define a reflex action and name three reflexes of interest to the practitioner.
2. Give the general relations of the gray and white matter in the cord. How do we determine from what region any given section is taken?
3. Mention some important characteristics of the pulse in health and disease.
4. Give general description of the heart, defining its function.
5. Give the physiology of respiration.
6. Describe the pressure conditions in the lungs and thorax and their influence upon the circulation.
7. Describe the digestion and absorption in the stomach.
8. What is urea and where found?
9. Give histological structure of the cornea.
10. Give the histology of the nasal mucous membrane.

DR. R. E. VICKERS, *Examiner.*

Society Proceedings

OHIO COUNTY SOCIETY.

Regular meeting; 35 members present. A paper on "Ulcer of the Cornea" was read by Dr. Dickey. He said ulcers often leave opacities and cause complications, sometimes resulting in the loss of the eye. Such cases are very common. Of the symptoms, pain and photophobia are most important. Ulcers are simple, in which pus is never present; infected and serpiginous, the latter tending to spread. Pus in the anterior chamber and perforation often occur. Has had the last to occur in several cases after an injury by barley straw. He spoke of the harm done by crude methods of removal of foreign bodies from the eye. Corneal ulcers are slow in healing and sometimes so destructive that the eye has to be removed in two or three weeks. Advised hot applications, rest, with atropin and cocain. In slow indolent cases touch with iodin or pure carbolic acid. He also uses the yellow oxid of mercury ointment. Dr. Hildreth III opened the discussion. He stated that the membrane was nonvascular and derives its nutrition from the lymphatics. He spoke of the use of cocain for anesthesia ;also the use of fluoricin and saturated solution of boric acid. Also stated that the healing of the ulcer is often attended by scarring, which causes astigmatism. Advocated the use of dionin and cold applications. Dr. Kelly discouraged the use of cocain except for purposes of examination or cauterization lest degeneration of the cornea result. He was especially fond of chlorin water on account of its germicidal action In gonorrheal ophthalmia the ulcer may get a good start on account of the obscurity of the field. Dr. Aschman gave the pathology of corneal ulcer and the pathogenic organisms present. He feels that eserin is better than atropin and also advocates cauterization and the use of boiling water. Dr. Oesterling said his experience with the cautery has been bad, and thinks clamping of the lachrymal duct and the use of dusting powder of atropin and dionin a good treatment. Dr. Ackermann said that phlyctenular disease in children is generally due to tubercular infection. He opposes the use of cocain and advocates the use of chlorin water, with equal parts of distilled water. Dr. Hildreth II urges the use of calomel as an intestinal antiseptic and attention to the diet in the treatment of phlyctenular keratitis. Dr. Fawcett thinks holocain is better than cocain and said the nasal passages should be disinfected. Dr. Dickey, in closing, said he had experienced no bad effects from the use of cocain combined with boric acid. Had never used the electric cautery.

Tincture of iodin was his first choice as a caustic. Atropin is not only a dilating agent, but is to a certain extent anesthetic.

Dr. M. Gaydosh read a paper on the "Use of Lobelia in the Treatment of Diphtheria," claiming that he had seen good results. The paper was discussed by many of the members, all of whom condemned the use of this drug.

THE CABELL COUNTY SOCIETY.

HUNTINGTON, W. VA., Aug. 15, 1913.

The regular monthly meeting of this society was held in the Hotel Frederick on the evening of the 14th.

A patient with tubercle of the iris was presented for examination by Dr. Moore.

The evening was devoted to a discussion of "Tuberculosis and Its Treatment." The discussion was opened by Dr. I. C. Hicks with a paper which I am enclosing to the *Journal* and which I trust you may find of enough merit to publish.

Fraternally yours,

JAMES R. BLOSS, *Secy.*

THE MERCER COUNTY SOCIETY.

This society now has a membership of 57, with 12 honorary members. It held a meeting on July 31st in Bluefield. The following was the program:

Cellular Determination of Sex—Percy J. McElrath.

Our Society—What It Is and What It Should Be—S. R. Holroyd.

Report of a Case—I. W. Taylor.

C. F. ST. CLAIR, *Secy.*

Reviews

LABORATORY METHODS, with special references to the needs of the General Practitioner. By B. G. R. and F. G. C. WILLIAMS. 2nd edition. Introduction by VICTOR C. VAUGHN, M. D., LL.D. 43 illustrations. $2.50. St. Louis, C. V. Mosby Co.

This work is written chiefly for the general practitioner, and Vaughn says that "a working laboratory in which the best work can be done can be established at small cost. It will require only a good man to conduct it." The book shows how a small laboratory may be equipped by any physician. Any country doctor of studious habits and progressive spirit may, with the aid of this book, make a diagnosis of diphtheria, aid in his diagnosis of tuberculosis, and other diseases whose diagnosis is aided by the microscope and the culture tube. The writers very properly say that at least every county should have a man equipped for such work, and skillful enough to do it in a satisfactory manner. Very valuable time would thus be saved in cases where haste in diagnosis might be very important. All the information needed for this kind of investigation is plainly pictured and described. The book is one of great value, and many practitioners who are apt to think this kind of work beyond their capacity will change their minds after its careful perusal.

The Narcotic Drug Diseases and Allied Ailments, *pathology, pathogenesis, and treatment.* By GEO. E. PETTEY, M.D. Octavo of 516 pages, illustrated. F. A. Davis Company, Philadelphia. Price $5.00.

This is a monograph of practical value. The principles underlying the subject in its physical aspect, at least, are fully grasped and made plain. The work will be of especial value to the general practitioner who may be called upon to treat acute ailments occurring in narcotic and alcoholic habitues. Proper repetitions do away with cross-references. Selected case histories are introduced with good effect. The author seems awake to the need of more and better work along the lines of prophylaxis, but has strangely enough omitted any allusion to the great usefulnesses of psychotherapy, and of psychoanalysis especially, in this matter. The re-education that will remove defective traits of character and impart moral courage is worthy of more attention than Dr. Pettey semes to have given it. C. A. W.

BLOOD-PRESSURE, From The Clinical Standpoint. By FRANCIS ASHLEY FAUGHT, M.D., of the Medico-Chirurgical College, Philadelphia. Octavo of 281 pages, illustrated. Philadelphia and London. W. B. Saunders Company, 1913. Price $3.00 net.

The estimation of blood-pressure by means of new instruments of precision has placed upon us a new duty—that of keeping abreast with the new knowledge gained by sphygmomanometry. Dr. Faught's book will help us to fulfill that duty. One chapter reviews the physiology of the circulation. Instruments are described, and the principles underlying their use explained. Climatologic influences and exercise are discussed. There are chapters on hypotension, hypertension, arteriosclerosis, diseases of the kidneys and of the myocardium. Acute and chronic infections, metabolic and miscellaneous diseases, surgery and obstetrics are all discussed with blood-pressure changes in mind. There is a chapter on Blood-pressure in Life Insurance, and an extremely practical and helpful chapter on the Methods of controlling blood-pressure. A good index is added. C. A. W.

INTERNATIONAL CLINICS—A Quarterly of Clinical Lectures and Special Articles. Edited by HENRY W. CATTELL, aided by WITHERSPOON, OSLER, MAYO, ROTCH and other widely known men. Vol. II. 2nd series, 1913. J. B. Lippincott, Phila. $2.00.

The first paper in this volume is enough to commend it to the progressive practitioner, viz. The Therapeutic Indications for Antitoxin, Serums, and Vaccines, by G. M. ILLMAN, Professor of Medicine Temple University. The next, Principles of Therapy under Modern Biology, by HEMENWAY of Evanston, Ill., contains many facts of great interest, touching modern methods in medicine. Therapeutical Exercise before a Mir-

ror describes and pictures a modern form of treatment in deformities and physical defects. Fetal Products in the Treatment of Carcinoma, by Babcock, gives the latest suggestions as to the treatment of cancer. Other articles on surgery, neurology, obstetrics, etc., make this volume one of the best of this valuable series.

REPORTS OF THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION, VOL. 5, JAN.-DEC., 1912. By W. A. PUCKNER, Director of the Laboratory.

This is a little book that contains reports of the work done during the year 1912. It embraces the work of the Council on Chemistry, the examination of patent and proprietary medicines, and the investigations of chemical questions connected with the Propaganda department of the Journal A. M. A. It contains much information of interest and value to the practitioner. Send for a copy. 25 cents.

THE SURGICAL CLINICS OF JOHN B. MURPHY M.D., AT MERCY HOSPITAL, CHICAGO. Volume II. number III. (June, 1913). Octavo of 185 pages, 62 illustrations. Philadelphia and London. W. B. Saunders Company, 1913. Published Bi-Monthly. Price per year: Paper, $8.00. Cloth, $12.00.

Each new number of the Murphy Clinics is awaited with unabated interest and continues to be read in a spirit of gratitude to both surgeon and publisher for this unusual surgical feast which is spread for the profession with unfailing regularity. In the last numbers there is material in great abundance and the Clinics cover a large variety of subjects. Bone surgery, which has been the most notable characteristic of the Clinics recently, has again been given prominence. Pott's disease receives special attention, and a feature of the June number is the record of a clinic given by Dr. F. H. Albee of New York, who was a guest of Dr. Murphy. Dr. Albee gave the demonstration of his new method of treatment of spinal disease by bone grafting. His technique was made very clear, with full directions and advice concerning the after treatment. In addition to this valuable contribution to spinal surgery, a great number of important surgical subjects are considered, making the number attractive to every one engaged in surgical work. R. J. R.

THE OPERATING ROOM AND THE PATIENT. By RUSSELL S. FOWLER, M.D., Chief Surgeon First Division, German Hospital, Brooklyn. Third Edition Rewritten and Enlarged. Octavo volume of 611 pages with 212 illustrations. Philadelphia and London. W. B. Saunders Company, 1913. Cloth $3.50 net.

A book that should be useful to surgeon, assistant, hospital superintendent and nurse.

It should be especially valuable to the man who attempts surgery after years of general practice without having served as hospital resident and therefore having no first hand knowledge of the modern operating room.

The principle value of the work lies in its wealth of detail. Nothing is taken for granted, the reader is shown just *how* and just *why* everything should be done.

The illustrations, which are numerous, include a plan of a model operating room. The manner of preparing dressings and supplies is taken up with great minuteness. Pre- and post-operative treatment is gone into fully. Something a little out of the ordinary is a description of the rashes found in surgical patients; complications due to pressure; ischemic paralysis and contracture are fully set forth.

250 pages are taken up with special operations, giving under each heading the methods of preparation and after-care applicable to the particular operation. The last 30 pages contain lists of instruments and dressings to be used in 83 different operations.

Not many mistakes are noted. The author shows a want of familiarity with spinal analgesia, both as to manner of using and after effects to be expected.

The illustration of Buck's extension shows the usual pull from and below the knee when it should be almost altogether from above.

The many little "wrinkles" and wealth of detail not usually found in more pretentious works constitute the main value of this book.

A.P.B.

Medical Outlook

DEPARTMENT OF AGRICULTURE ADVISES THAT MILK BE PASTEURIZED AT LOW TEMPERATURE.

Washington, D. C.—In order to determine the best way of pasteurizing milk so as to kill the disease germs and yet not give the milk a cooked flavor or lessen its nutritive value, the Department of Agriculture, through its Dairy Division, has been conducting a series of experiments, treating milk at different temperatures and for different lengths of time. According to the report on these experiments in Bulletin 166 of the Bureau of Animal Industry, when milk is pasteurized at 145° F. for thirty minutes the chemical changes are so slight that it is unlikely that the protein (muscle building element) or the phosphates of lime and magnesia are rendered less digestible than they are in raw milk.

Moreover, from a bacteriological standpoint, pasteurizing at low temperatures is found to be more satisfactory than pasteurizing at high temperatures. According to Bulletins 126 and 161, where low temperatures are used the majority of bacteria that survive are lactic acid organisms which play an important part in the normal souring of milk.

When milk is sufficiently pasteurized at high temperatures, the bacteria which survive are largely of the putrefactive kinds, and milk so treated if kept for any length of time has a tendency to rot instead of sour. From the standpoint of economy, the technologist of the Dairy Division finds that pasteurizing at low temperatures

calls for less heat. It is found that it takes about 23½ per cent less heat to raise milk to the temperature of 145° F. than to a temperature of 165° F. A similar gain is a saving of the ice needed, because it will require 23½ per cent more refrigeration to cool milk to the shipping point when it is pasteurized at the higher temperature. The Department, therefore, recommends that "When market milk is pasteurized it should be heated to about 145° Fahr. and held at that temperature for 30 minutes."

COMPLICATIONS IN TYPHOID.

E. E. Field, M.D., Norfolk, Va., has an article in *Va. Med Semi-Monthly,* August 8, on "Some Unusual Complications of Typhoid." In conclusion, he says: "In my opinion, the best plan seems to be avoidance of so-called antipyretics, regulation of bowels, administration of hexamethylenamine to disinfect the gall and urinary tracts, and a generous diet principally of carbohydrates. I believe that the fullest possible diet is necessary, not only to prevent tissue waste, but also to produce a sufficient number of leucocytes to combat the leucopenia, and a plasma containing those system protecting antibodies about which we discourse so learnedly and know so little." G. D. L.

OBSERVATIONS UPON THE DIAGNOSIS AND TREATMENT OF APPENDICITIS. GOETHE LINK, M.D., *Indianapolis, Ind., Indianapolis Med. Jour.,* Jan. 15, 1913

Paper based upon a series of cases which include over one hundred operations for appendicitis done by the writer. Appendicitis, says Link, is nearly always a chronic disease having acute exacerbations. Careful questioning a patient will nearly always bring out the fact that he has had frequent attacks without knowing what was the matter and close observation of a a patient after an acute attack has subsided will prove the disease existing in a mild form, and we may safely predict future exacerbations. Clinically patients with chronic appendicitis can be classed in two groups, 1st, those having recurrent febrile attacks with focal symptoms, and 2nd, those whose chief symptoms consist of derangement of the gastro-intestinal function.

In the first class the correct diagnosis is usually made, but the importance of appendectomy is as a rule not appreciated. In the second group the diagnosis is not often made and of course proper treatment not given. Our desperate cases, those with rupture, nearly all come from these two groups. A patient has one mild attack, his physician uses an ice bag, washes out lower bowel and gives a cathartic. He is soon better, except a slight tenderness for a few days and he is cured of his appendicitis. This occurs in a few months again with same treatment and same result. After a while patient learns to treat himself. Finally he has an attack which ends in perforation. "Doctors who cure appendicitis are still found in every community. I know one M.D. who made quite a reputation in an Indiana town by curing a leading citizen five times."

For those who come after a so-called acute attack he advises the so-called interval operation. Tells of a patient who had a perforation while on a train in a distant state. This was the fourth attack. He had refused interval operation, on the plea that he could not spare the time. But this attack cost him several thousand dollars and he was lucky to escape with his life. The second group of cases are doomed to be dosed all their lives for stomach trouble. "Modern investigation has shown that essential functional disease of the stomach is almost a rarity, yet think of the gallons of digestants and stomach medicines that are dispensed. Most of the patients have a diseased appendix, a diseased gall-bladder, or both.' G. D. L.

DANGERS OF CERTAIN OCCUPATIONS TO HEALTH.—E. P. Budely, M.D., of St. Louis, read before St. Louis Med. Soc., and published in *Jour. Missouri State Med. Assn.,* an essay on the above subject. We quote his conclusions:

"1. The boot and shoe industry has largest percentage of deaths from tuberculosis of any St. Louis industry, while factory workers rank second and ice workers third.

2. Lowest average age at death was from tuberculosis, among factory workers, 28 years.

3. 10 per cent more deaths from tuberculosis among indoor workers than from all accidents, including those which have no relation to occupation, as street railway, suicide, homicide, drowning, railroad, etc., etc. This is reversed among the outdoor workers, who show six per more deaths from accident.

4. 10 per cent more deaths from tuberculosis among indoor workers as compared with outdoor occupations, while there is no particular difference of percentage among other causes of death.

5. Percentages of tubercular deaths among indoor workers is 10 per cent greater than that of the average white males, while the percentage of other causes is less.

6. Professional class have the lowest death percentage from tuberculosis while they have the highest among other causes, save accident.

7. The unemployed have the largest percentage of deaths from accidents."—G. D. L.

INFANT FEEDING.

Dr. Mumford in Indianapolis *Med. Journal,* July 15, closes an article on "Indigestion in Infants," with the following pertinent remarks:

"The age of empiricism in infant feeding is a thing of the past. The treatment of food disturbances is now based upon a careful and exact diagnosis—a diagnosis based upon the correct interpretation of clinical and laboratory findings. The light which flashes every ten seconds for the death of some infant under one year of age in the civilized world should no longer be furnished fuel by the infantile indigestions." G. D. L.

The West Virginia Medical Journal

Published Monthly
by
The W. Va. State Medical Association

Under the Direction
of the
Committee on Publication.

COMMITTEE ON PUBLICATION:
S. L. JEPSON, Chairman.
L. D. WILSON. G. D. LIND. C. A. WINGERTER.

Entered as second-class matter August 10, 1906, at the Post Office at Wheeling, W. Va.

Vol. 8—No. 4. WHEELING, W. VA., OCTOBER, 1913 Subscription Price $1.00 per Year Single Copies 15 Cents.

Original Articles

EARLY ECTOPIC GESTATION

S. L. Jepson, M. D., Wheeling, W. Va.

(Read before the W. Va. State Medical Association, May, 1913.)

Pregnancy outside the uterine cavity is by no means as rare as was formerly supposed. Advance in methods of diagnosis, and especially a larger experience with this abnormal condition, and a consequent more intimate knowledge of its natural history, have brought to light very many cases that would in earlier days have been overlooked. Several different operators have recorded from 150 to 300 cases as having occurred under their individual observation. Burrage of Boston says that five per cent of his celiotomies are due to this condition.

The ovum may be fertilized in any part of the tube, from its fimbriated extremity to where it enters the cavity of the uterus; and in exceptional cases on the ovary or in a Graafian follicle. It is not generally conceded that primary abdominal gestation ever occurs, although Gallabin, Hirst and others claim to have had such cases. The free movements of the abdominal viscera would probably prevent the attachment of the ovum, if indeed it could develop on any other than a mucous surface. And it is generally believed that the peritoneum would absorb the ovum before any attachment could be formed. The cases of so-called abdominal pregnancy are generally believed to be cases in which the ovum was fertilized on tubal or ovarian structure, the fetus later escaping into the peritoneal cavity while the placenta remained in its original site. Practically, then, we have as a rule to deal with the different varieties of tubal gestation only, the ovarian being very rare. Many cases of repeated tubal pregnancy in the same patient have been reported. Twins in the same tube or one in each tube, and even tubal triplets, are matters of record.

Ellice McDonald and William A. Kreiger, New York (*Journal A. M. A.*, June 7), consider multiple ectopic pregnancy not a rare ocurrence if duly looked for. It may be divided into several classes; namely, combined with pregnancy of the uterus, bilateral or twin pregnancy, and two fetuses in the same tube. Twin ectopic pregnancy has been reported a number of times in late years, especially since the treatment by operation has become usual. It is sometimes difficult to determine whether it is true twin pregnancy. Many of the cases reported are consecutive ectopic pregnancies not simultaneous in the same tube. They are repeated tubal pregnancies. Treub has photographed five tubal pregnancies of the same age in the same tube and others have reported triplets and twins on one side and a single fetus on the other. Sometimes there is only one sac and sometimes there are two. One ovum may be found free and sometimes both are free. Bilateral pregnancy is subject to the same uncertainty, one may be consecutive to the other and its growth may be stopped while the other continues. An interesting fact is that the presence of blood-clot in one tube and of a fetus in the other or of decidual cells in one with a gestation in the other is no proof of a bilateral ectopic pregnancy. Feroni has shown that the microscope reveals decidual cells in tubes that contain blood for whatever reason removed. To make an exact diagnosis of bilateral ectopic pregnancy, either a fetus or chorionic villi must be present in each tube. Two tables of cases collected of bilateral extrauterine pregnancy are given, fifty-two in all. In

one, the cases which meet all the conditions are included, in the other the probable cases. Two personal observations of the authors are described in the paper. One patient had apparently three pregnancies, one in each tube and a uterine one which miscarried; in the other there was a fetus in one tube and chorionic villi in the other.

In the *J. A. M. A.* for August 9, Dr. J. F. Baldwin reports finding, in a case operated for "almost complete procidentia," "two fetuses in the left tube and one in the right, all of the same age."

An extra-uterine pregnancy not rarely co-exists with a normal one. Dr. T. M. Haskins of Wheeling recently had a case of this kind in a single woman. When fertilization occurs in or near the fimbriated extremity of the tube, the ovum or fetus may escape into the abdomen, constituting what is known as tubal abortion. When the ovum is located in the interstitial part of the tube, it may escape into the uterine cavity, and may possibly develop there. The most common situation is in the ampulla, the dilated portion near the outer end of the tube.

Ectopic gestation, whatever its location, is a grave condition. It often kills. It is apt to kill suddenly. As it is not unfrequently first met with by the general practitioner, its early diagnosis becomes a matter of the most vital importance. Hence its discussion here may serve again to call to the attention of the members the salient points in its symptomatology, diagnosis, and treatment, with which none of us can be too familiar.

Etiology.—There is no specific cause that can be named, but it is a well-recognized fact that ectopic gestation is favored by any condition that hinders the passage of the ovum, which is supposed to be fertilized on or near the ovary, down the tube to the uterine cavity, its normal place of development. Among such conditions may be named absence of tubal ciliae, narrowing of the tube from convolutions, the presence of diverticulae, extra-uterine tumors causing pressure on the tubes. Perhaps the most common cause is chronic salpingitis and its results. This will explain the fact of its most frequent occurrence in multiparae, since disease of the tubes is most apt to be present in women who have borne children. When it occurs in the multipara we would expect to find that some abnormal condition of the pelvic organs is present. The last case seen by me was exceptional, in that it occurred in a woman who had been married fourteen years without having been pregnant. No doubt there was a condition of the tubes that interfered with perfect functionating.

Pathology.—When tubal pregnancy occurs the tubal walls at first thicken, but by vascular rather than by muscular growth, and sometimes by exudation. The uterus enlarges and a decidua forms. In a few weeks the tube becomes thinner from the encroachments of the chorionic villi, and sooner or later a rupture occurs. This may be within a month, and is generally within fourteen weeks at latest. The rupture may be into the peritoneal cavity, with rapidly fatal result. With a less amount of hemorrhage, the danger may be not so great, and when operation is promptly done many lives are saved. The rupture may be downward into the broad ligament, when the symptoms are not so grave, and may even be so mild as to pass unnoticed. In such cases the fetus may continue to develop, going on even to full term. One such case was encountered in the City Hospital, Wheeling, some years ago, a dead full-term fetus being removed successfully by Dr. E. C. Myers, a former member of the staff. Dr. J. S. Horsley recently reported a case in which he performed abdominal section and removed a living child weighing six pounds, both mother and child surviving. He collected from literature from 1809 to 1912, 103 cases of abdominal pregnancy, in five of which mother and child were saved and were alive a year after operation. Symptoms of labor—"spurious labor"—set in in such cases, and if the fetus be living, it may be successfully removed by prompt surgical intervention. Otherwise its death occurs, after which it may after a time be discharged, after a suppurative process, through rectum, vagina, bladder, or abdomen. Or it may remain in the abdominal cavity in the fresh state, or be reduced to adipocere, or mummified, or encrusted with calcarious salts constituting what is known as a lithopedion. Several such cases of forty to fifty years duration are on record. In St. Bartholomew Hospital, London, many years ago, I examined a case in which the fetus could be distinctly outlined floating freely in the abdominal cavity. Dillard

of Lynchburg reports a case of lithopedion removed from a colored woman aged 50, who had carried it for 32 years. (See Medical Outlook in this issue of the JOURNAL.) The ovum generally ruptures with the tube, the fetus perishing; or it may escape from the fimbrated end of the tube—tubal abortion—as already said and soon disappear. When the gestation is interstitial, the fetus may pass into the uterine cavity, and if the placenta remain undisturbed, the possibility of its full development is recognized. Still another termination is to be noted. The ovum may partially separate from its tubal wall, bleeding go on within the tube, the fetus perish, and a tubal mole result. In such cases bleeding is apt to continue, and the blood escaping from the ostium forms a pelvic hematocele. When the rupture is into the peritoneal cavity, and the patient survives the hemorrhage without surgical operation, she may later die from peritonitis, or suppuration of the blood mass. Or the blood and products of conception may be absorbed, with recovery of the patient; or she may be left with some degree of invalidism.

Diagnosis.—Until somewhat recently this was considered very difficult. Since we have become more familiar with these cases, however, the difficulty has diminished. The cases differ so much in symptoms and history, however, that Howard Kelly's dictum may still be held as correct: "With a certain order of symptoms and signs, we can with the utmost certainty diagnose extra-uterine pregnancy in a certain proportion of cases; in another large proportion of cases it is a matter of much conjecture." DeLee says that every gynecologist and surgeon in Chicago has made errors in the diagnosis of extra-uterine gestation (Obstetrics p. 389). Not a few cases have, however, been diagnosed before rupture of the tube, but many more are seen after than before this event. To diagnose a case before rupture in a patient with an uncertain pelvic condition, it is an absolute necessity that the physician keep prominent in his mind the possibility of tubal pregnancy being present. To forget this point is to be lost. Next to this in importance is, to be perfectly familiar with the natural history of the condition. Knowing this well, a very full history of the woman's menstrual life and of the case pending, diligently and carefully taken, is of the very greatest value. Experience in the examination of the female pelvic organs by all known methods, and familiarity with the conditions that may simulate ectopic gestation, are essential to a high degree of success. Therefore the duty of calling into consultation one who has had large experience, if he who is first called has not, must be insisted on. Anesthesia may render valuable aid, since a thorough investigation can not always be made without causing considerable pain. Do not forget the value of immediate diagnosis in these cases. Most cases of pelvic disease may wait without serious result to the patient; these cases can not, even though rupture has not occurred. After such event the urgency is, of course, still greater.

It must not be forgotten that in a case of tubal gestation weeks may pass without any symptom whatever presenting. The patient may suppose herself to be normally pregnant. Pain may occur in the ovarian region and pass without any particular notice because not severe, and because women are so often the victims of pain. A period may pass after the gestation occurs without cessation of or notable change in menstruation. In other cases the patients may feel that something unusual has occurred, but make no report to their physicians. So we are often deprived of the opportunity to investigate these cases, when investigation would be so very valuable. Ectopic gestation suspected, let us summarize the principal diagnostic points.

1. One or more menstrual periods have been missed or some irregularity of the period may have occurred. Of increased importance if the patient is a multipara; still more if she has been barren for some years. But menstruation may depart so little from the normal in exceptional cases as to attract no attention.

2. Added to a missed period, some of the other usual signs of pregnancy, as nausea, etc., which, however, is less apt to occur than in normal pregnancy.

3. Increase in the size of the uterus, with forward or lateral displacement, the cavity patulous. But the os does not soften as much as in normal pregnancy.

4. Pelvic uneasiness, with pain of a col-

icky, sickening character, coming on in short paroxysms, and sometimes shooting down the thigh. Patient will say that she has never had just such pains before.

5. Irregular discharges of blood from vagina, which may be in gushes and attended with pain, and followed by tenderness to one side of the uterus, and sometimes some abdominal tenderness.

6. Expulsion of shreds of decidua. This should be inquired for, as it may have been overlooked by the patient but may be brought to mind by inquiry.

7. On examination an enlarged Fallopian tube may be felt, forming a cystlike tumor to one side of, or—less commonly—behind the uterus, which it displaces. This tube is quite movable, it is sensitive, and pulsation is felt in or near it. If an examination is made at intervals, it is found to enlarge.

All or a number of these symptoms and signs may be present; but unfortunately they may be absent or escape the attention of the patient, who is often deluded by the thought that a miscarriage is threatened.

When the tube has ruptured the situation is at once radically changed. Sudden violent pelvic pain in a previously well woman should at once cause a suspicion, which must be followed by a most careful investigation into the patient's recent physical history, if indeed there be time for this. Too often the accompanying pallor, cold skin, feeble or absent pulse, nausea or vomiting, subnormal temperature, make a prolonged investigation unnecessary, and delay in preparation for surgery almost a crime. But there are varying degrees of hemorrhage and collapse, and in not all is immediate surgery demanded. If there has been a tubal abortion or a small rupture only, or rupture into the broad ligament, the hemorrhage may be limited, not rapid in its appearance, and the shock consequently not marked, reaction soon setting in if proper remedies are applied. Inquiry will almost always discover some uterine bleeding. Decidual shreds may now be discovered, if they have not been earlier found. A history of some years of sterility, with a recent missed menstruation, or a delayed period, or an irregularity of flow, will also be elicited. Examination will reveal enlargement of the uterus, the os soft (probably), cervix patulous (probably) and a tender, boggy mass to one or both sides of the uterus, or behind it also, with that organ somewhat displaced. The location, size, and character of the mass depend somewhat on the site and character of the hemorrhage.. This may be into the tube, which would cause it to feel more firm and elastic; or into the posterior cul-de-sac, when the mass is less circumscribed, at first soft, becoming harder if time is permitted for later observation. If the bleeding is very slow, the blood may coagulate about the tube. If the hemorrhage is large and into the cavity, the pain is more violent than ever before experienced, the feeling of apprehension such as no other pain excites, and the shock most profound. If necessary because of any existing doubt as to the diagnosis, look for the cyanotic hue of the vagina and cervix so commonly present in pregnancy. We may add that rupture into the broad ligament prevents the free distribution of the blood, and as a result the tumor formed is not so large, and being more circumscribed is more tense to the feel.

Various pelvic conditions have been named as simulating ectopic gestation, as inflammation of the tube, or other pelvic inflammation. Appendicitis has also been named as at times causing confusion, but such cases must certainly be rare and of an unusual character. An ovarian cyst with twisted pedicle is a condition that may greatly confuse the examiner. It may "cause menstruation to be atypical and produce metrorrhagia. The excruciating colics, the steady pain, the soreness of abdomen, and the metrorrhagia which so often follows the twisting of a pedicle, afford one of the best counterfeits of ectopic gestation. Such cases are, of course, comparatively rare, and are not difficult to diagnosticate, unless the tumor which is twisted on its pedicle was not known to exist prior to the colics and to the atypical menstruation" (Bandler). But the condition that is most liable to cause doubt in the great majority of cases is an ordinary uterine abortion. If the ovum has passed from the uterus in such a case, that fact can be generally noted. If it has not passed, the uterus will not be found empty, as it will be if the case is an extra-uterine one. In the latter condition a probe would enter the uterus four or

five inches, which is never the case in any other condition except such as would have made itself known by prominent symptoms. And in either case there is no tumor felt near the uterus. A small ovarian cyst, or a small exudate near the uterus might simulate an unruptured case; but either such case would be rare, and in neither is uterine bleeding present. Nor is there a history of intermittent pain of the character found in extra-uterine pregnancy. A microscopical examination of the discharges from the uterus might show the presence of decidual cells, which are smaller in ectopic than in uterine pregnancy; and there is also absence of chorionic villi if the former condition exists. The presence of the these villi establishes the fact of normal pregnancy. In the diagnosis of ectopic gestation Bandler regards the existence of atypical menstruation, or metrorrhagia, and the peculiar pains, as of the greatest value.

In this connection the conclusions of Philander Harris, drawn from an experience of over a hundred cases, are interesting and instructive:

"1. More than 90% consulted a physician on account of symptoms referable to the pelvis before the tragic stage was reached.

"2. Many of them received medical advice or attendance for several weeks before the tragic symptoms presented.

"3. Many such cases are not diagnosed, and although the patients continue to exemplify the symptoms of the non-tragic stage of ectopic gestation, they rely for days or weeks on false hopes until the tragic symptoms occur.

"4. Of the 90% who consulted a physician, a very large proportion were told that an ordinary abortion was threatened, was occurring, or had occurred.

"5. Of the 90% who consulted a physician, about 20% were subjected to the operation of curettement for the cure of metrorrhagia, the real cause of the metrorrhagia not having been suspected.

"6. Of the 90% who consulted a physician, some were unable to pursue their usual vocation, being confined to their couch for days or weeks before tragic symptoms occurred. Except for brief intervals of an hour, or a few hours, a large proportion of the cases of ectopic gestation pursued their usual vocation during the non-tragic stage without material or prolonged interruptions.

"When any woman after puberty and before the menopause, who has menstruated regularly and painlessly, goes four, five, six, eight, ten, fifteen to eighteen days over the time at which menstruation is due, sees blood from the vagina differing in quality, color, quantity, or continuance from her usual menstrual flow, and has pains, generally severe, in one side of the pelvis or the other, or possibly in the hypogastric region, ectopic gestation may be presumed."

From this experience of Dr. Harris it appears either that the diagnosis of ectopic gestation is by no means easy, or that the average general practioner is either not sufficiently painstaking in his investigation, or is in need of more light on the subject, or more skill is his diagnostic methods. Let us hope, therefore, that this discussion of a subject of which recent medical literature is rather full, may not be without some benefit.

Treatment.—In no department of medicine has there been so radical a change in the methods of treatment as of the condition under discussion. Eighteen years ago the writer read a paper on this topic before The American Medical Association, in which prominent and favorable mention of the treatment by electricity was made. The purpose of that treatment was to kill the fetus, after which absorption of the products of conception was expected to take place. Thomas, Emmet, Hanks, McLean and other excellent authorities were quoted as favoring this treatment. Statistics collected by Dr. Brothers were quoted showing that ninety cases had been successfully treated by the electric method, dangerous symptoms, however, occurring in several of these. Our discussion of this treatment thus closed: "We by no means regard the electrical as the ideal treatment. We only claim that under certain circumstances it is not only justifiable but eminently proper."

Like many younger men, we have progressed somewhat since this was written, and would no longer suggest such treatment under any circumstances which occur to us. To convince the most conservative members of this society, I will quote from the latest obstetric and gynecological writers touching the treatment of unruptured cases. Kelly (1895):

"The electrical treatment so much advocated a few years ago for the destruction of the fetus has deservedly fallen into disrepute, because of its uncertainty in terminating the fetal life, and of its dangers to the mother through subsequent inflammation." Edgar (1903): "Every extrauterine pregnancy that is diagnosticated demands surgical intervention." Williams (1908): "As soon as an unruptured extrauterine pregnancy is positively diagnosed, its immediate removal by laparotomy is urgently indicated, since rupture

may occur at any time and the patient die from hemorrhage before operative aid can be obtained." Hirst (1909): "As soon as the diagnosis is established with reasonable certainty, the removal of the gestation sac by celiotomy is the only treatment worthy of consideration." DeLee (1913): "There is no expectant treatment for a growing ectopic gestation. The 'explosive body' must be removed from the abdomen as soon as possible, * * preferably by celiotomy."

No modern authority worthy of respect can be quoted as opposing the radical treatment here advocated; so this question may be considered as settled.

What shall be the treatment when the physician is called to a case of ruptured ectopic gestation? Early operation, certainly, but not necessarily immediate operation. It must be remembered that the shock always present in these cases is not solely due to the loss of blood, but largely to the pain, the sudden impression made on the peritoneum and the nervous centers within the abdomen. We witness a degree of shock from abdominal pain from various causes, as gall-stone or kidney colic, and markedly so from strangulated hernia, with no loss of blood in any of these conditions. Death from a first hemorrhage is exceptional, at least ninety per cent recovering from the initial shock. Preparation for operation, however, should be promptly instituted. This will always require considerable time. In the mean time the condition of the patient demands the close attention of a physician. It is practically always necessary to administer morphia hypodermically to control the very severe pain. This will also aid in controlling shock, and it will diminish the patient's fear, always present. The foot of the bed must be elevated twelve to fifteen inches, intravenous or subcutaneous injection of normal salt solution should be promptly used, with the addition of adrenalin solution. Heat to the surface, and bandaging the extremities may be useful. Absolute mental and bodily quiet must be enjoined.

Hunter Robb and a few other well known surgeons, do not believe that an operation should be done during the existence of profound shock. On the other hand Ladinsky of New York, after an experience of over 200 cases, says he always operates promptly, refusing none, and that every case operated by him in profound shock recovered. He says that the recuperative power of a patient after operation depends more on the duration of a hemorrhage and of the shock than on their severity.

He claims that "patients operated on shortly after the rupture has taken place no matter how profound the shock and profuse the hemorrhage, react within a few hours, while patients operated on after the hemorrhage had continued some time, were much slower to respond to stimulation." (*S. Cal. Med. Journal*).

Every surgeon must, after all, be left to his individual judgment in the presence of the case, with or without counsel, in determining the propriety of immediate interference. It is not possible for the most experienced surgeon to determine what he would have done in a case which he has not seen, and therefore no book or writing can lay down definite instructions from which there is to be no departure. Every case is a law to itself, and while delay in many cases is eminently proper, the same course in many others means the death of the patient. Douglas, of Nashville, long ago suggested that in extreme cases, where it seems that the patient could not bear a protracted operation, the operator should "open the abdomen and grasp the proximal side of the tube, which stops the hemorrhage. Then transfuse the patient with saline solution, bring up the blood pressure and complete the operation." More recent operators advise grasping the tube on both sides of the rupture. Such practice can not be objected to, and might be the means of saving life, even when death seems imminent. Cragin advocates immediate operation unless it is evident that the shock is so profound that operation would undoubtedly kill; in which case he watches the pulse closely, and if there is any improvement, he defers operation; if the pulse grows steadily worse, he proceeds with the operation as soon as proper preparations can be made.

In the less dangerous cases where the bleeding is extra-peritoneal, no such urgent measures are indicated, and the best authorities advise delay. It is well to remember that recovery has occurred after operation in even the most desperate cases. The late Byron Robinson of Chicago operated successfully on a patient with a temperature of 106.2° and Reed of Cincinnati

on one when the temperature "vacillated between subnormal and 104°"; Palmer reports a successful case in which the pulse, after the operation, was entirely absent. Said the operator: "I could not see her breathing, and she looked like a woman who had been dead for several hours." No patient, therefore, however bad her condition seems to be after the rupture of the tube, should be permitted to die without an effort to save her life by surgical means. While we very much deprecate the rash operations of the inexperienced in cases of no urgency, yet we believe that every practitioner who can not procure the aid of an expert operator, should know how to promptly interfere in these cases, and have the courage to operate when a human life depends upon prompt action. Fortunately, however, the expert surgeon of today is to be found not alone in the large cities. An operator of sufficient skill to follow the advice of Douglas at least, may be now secured without long delay, and thus time may be gained for securing more expert services in cases demanding them.

Conclusions.—1. Ectopic gestation is tubal in the great majority of cases. A few cases of ovarian have been reported, and possibly a very few of primary abdominal, the latter, however, not yet fully accepted as primary.

2. Diagnosis before rupture is sometimes easy, sometimes difficult, and sometimes impossible to make with absolute certainty.

3. Diagnosis after rupture can in most cases be made with sufficient certainty to make a prompt abdominal section proper.

4. If a reasonably certain diagnosis can be made prior to rupture, laparotomy should be performed, and the gestation sac removed.

5. After rupture a laparotomy should be done in the great majority of cases. If evidence is present that the hemorrhage is small, and no urgent symptoms appear, delay in operating is justifiable and may be a duty. The time of operation must be determined at the time of rupture, or as soon as experienced counsel can be procured.

6. Rupture into the broad ligament does not require haste in operating, which may be postponed indefinitely, if the patient can be closely observed.

7. It is possible that the symptoms after intra-peritoneal rupture may be so urgent that even an unskilled physician may be justified in opening the abdomen with the view of stopping hemorrhage. Such cases will, however, be rare.

A CASE OF TUBAL PREGNANCY

S. B Lawson, M. D., Logan, W. Va.

(Read before the W. Va. State Medical Association, May 21, 1913.)

Much has been said and written during the past four centuries concerning ectopic gestation, and at the present time I believe no two authors agree on a classification of this anomalous form of pregnancy. By the term ectopic gestation I mean, when an impregnated ovum becomes fixed and begins to develop outside of the uterine cavity, ectopic gestation or extra-uterine pregnancy is established. True tubal pregnancy is the variety in which the ovum develops in the free portion of the tube, without protrusion into either the uterine or abdominal cavity. When it occurs in the inner portion of the tube, it is called isthmial, and when in the outer, ampullar.

In the case I report, if you will examine this specimen I exhibit, you will readily observe the fecundated ovum developed in the free portion of the Fallopian tube. The outer portion of the tube, including the fimbriated extremity, entered into the formation of the gestation sac.

It has not yet been determined at what point in the female genital tract normal impregnation of the ovum takes place, and until this is settled, whether extra-uterine fetation is an abnormal ectopic impregnation or is simply a detained impregnated ovum, must remain unanswered. No entirely satisfactory conclusions have been reached or theories demonstrated.

For brevity I will confine my paper to facts and let you draw your own conclusions.

CASE.—Mrs. R.—Age 37, married, weight 165 pounds. Family history negative. Began to menstruate at the age of 13 and was always regular, but suffered much pain. Miscarried 18 years ago. Gave birth to two children at term, the last of which was 13 years ago. No preg-

nancy since. This long period of sterility, some authors claim, is a predisposing cause of ectopic pregnancy.

Last menstruation Dec. 10th, 1910. Fell from a horse some time in the following February, which apparently did her no harm. Three months after last menstruation she began to suffer with morning nausea, pains in the breasts, and other symptoms characteristic of her former pregnancies. I was called at this time and found her suffering with dull pains over the region of the right ovary. By a digital examination I found the uterus enlarged, with a soft spot at Ladinska's ring. Pronounced her pregnant, but with my diagnosis she did not agree. Did not see her again until May 14th.

At this time I found the abdomen much distended and the patient almost constantly suffering pain in the right ovarian region. By bimanual examination I was able to find the fetus to the right of the uterus. Diagnosed her case as one of ectopic gestation and sent her to a hospital for an operation. After remaining in this hospital a few days, she left it without being operated on, the doctors of that institution disagreeing with my diagnosis. Another physician was called and likewise disagreed with me. A few days later I was again called to see her and advised an operation. To this she consented, but refused to go to a hospital, and was too poor to employ a trained nurse, and I refused to operate.

October 14th. Fourteen months later I was called again and informed her husband that the child was dead and advised an operation. She consented, but refused to go to a hospital.

October 16th, 1912, about 22 months after conception, I employed a trained nurse (Miss Thomas) for the case, and she was my only assistant in the operation. On this date Dr. Draper administered the anesthetic and on a kitchen table in a miner's home, where hygiene is unknown, I performed the operation.

After painting the abdomen with pure tincture of iodine, I made a median incision from above the umbilicus to near the symphysis pubis. The patient being very short and fat necessitated a long incision.

I found the gestation sack very firmly adhered to the peritoneum, which you can readily see by observing the specimen I exhibit. The adhesions were broken up with much difficulty, and, after lifting the sack from the abdominal cavity, it ruptured: but the liquor amnii had all been absorbed and nothing escaped into the wound. After the child had been removed, the operation was comparatively simple. Ligated and cut the Falliopean tube, freed the adhesion of right ovary and removed sack.

The patient had not lost more than one-half ounce of blood and was in good condition, so I examined the generative organs, found them in fairly good condition, and then closed the abdominal incision in the ordinary way. She suffered no post-operative shock and on the second day after the operation temperature was 100 for a few hours, and after that time temperature, pulse, and respiration remained normal. She made a quick and uneventful recovery. Discharged the nurse on the eighth day to save expenses. Wound healed by first intention and my patient was discharged as well on the 14th day after the operation.

If you will examine this specimen, you will find it agrees with the history of the case.

A fetus of about six months duration, more or less mummified, but fairly well preserved.

No history or symptoms of a previous hemorrhage, or rupture of the tube, and to what cause the arrest in development and death may be attributed. I am unable to say.

CONSERVATION OF NATURAL RESOURCES.

A. A. Shawkey, M. D., Charleston, W. Va.

(Read before the W. Va. State Medical Association, May 21, 1913.)

We Americans are a proud people, and we have much to justify our pride. We are proud of our wealth; our national resources; our wonderful railroad and industrial developments; our public and private school systems; our great men and women; our lineage, and many other things that attract world-wide attention. And yet perhaps a more careful scrutiny of our national, state and individual actions and characteristics would cause a material shrinkage of our American egotism.

Human life is America's cheapest commodity. Our social pride is shocked by this statement and prompts us to utter a vehement denial. But is it not, nevertheless, true? Do not our national actions prove its truth.?

In speaking thus I do not refer to the slight provocations that have sufficed to throw our nation into wars; nor to the readiness with which our soldiers face death before the cannon's mouth. I speak not of the lax laws and their lax enforcement for the protection of our laborers in mines and factories. My mind dwells not

at this time upon the unhealthy tenements of our cities, or the impure foods sold, to poison the growing youths. While any of these would provide interesting matter for discussion, I have chosen another theme and one of more vital importance.

Self preservation is the first law of nature. The second has not been formulated, but should be self-propagation; and in uncontaminated stock. I do not mean in a physical sense alone. The Greeks were noted the world over for their physical perfection, but they are now frying our griddle cakes and shining our shoes.

The individual is the nation. We hear much about conservation of natural resources and nothing about conservation of human resources.

The nations strain every resource and impoverish their citizens in the struggle for "Dreadnaught" supremacy, thinking thus to perpetuate themselves; while they fail to protect the individual from contamination and degeneration by interbreeding with physical, mental and moral degenerates.

Our nation spends millions in reclaiming unneeded western deserts, adding to the already thousands of idle acres, yet a National Department of Health would "cost too much;" and the Owen Bill fails to pass.

The boll weevil or wheat rust enlists the nation's interest and opens wide the vaults of the Government treasury; yet Ellis Isle admits 10,000 mental defectives annually, to become a burden upon society, and to promiscuously reproduce their kind; because it would be too great an expense to provide adequate equipment and a sufficient corps of trained specialists to detect and deport all of these undesirable immigrants. And the "Black Hand" flourishes. And the bomb of the anarchist is heard throughout the land.

Our Government spends more to study and prevent diseases of hogs than it does to study and prevent diseases of humans. The price of pork is high but the value of human life *should* be inestimable.

The help of the Government is yours for the asking if you wish to improve the strain of your domestic stock or fowls; but the Government has not only not made any study along the lines of stock improvement in the human race, but could not even tell me, when I applied for statistics for my study for this paper, what institutions in the country were making such study and investigation.

Human life is America's cheapest commodity. The individual is the nation. How long can the nation hope to maintain its supremacy if it continues thus to neglect the study and improvement of its integral individual? I had hoped to secure such statistics as would enable me to answer this question in figures, but statistics are sadly wanting and shamefully deficient.

Dr. Goddard, Director of Research at the Training School for Feedle Minded at Vineland, New Jersey, in answer to my question said: "One in 250 of our entire population is mentally defective." An estimated total of about 375,000 for the whole United States.

Dr. Laughlin, Superintendent, Eugenics Record Office, at the Station for Experimental Evolution, Cold Springs Harbor Long Island, New York, under the Carnegie Institution, replying to a similar inquiry said: "I do not think it far off to estimate that fully one in ten of our population are congenital misfits, and should be prevented from reproducing their kind." This would make for our entire population, a total of about 940,000 incapables.

Lest I should be misunderstood as criticising the work that is being done let me hasten to say that I find no fault with it; that criticism is not the purpose of this paper. The men at Ellis Isle are doing splendid work. None perhaps could do better: but they are handicapped by lack of specially trained assistants in certain lines, and cramped for want of space and equipment. What they have is good, but it is entirely inadequate for their needs. This is shown by the experiment of especially invited trained observers from the Vineland school; and my statement made before, relative to the admission of defective immigrants to this country was based upon this experiment.

No, I am not criticising what is being done, I am asking that more be done. I do not underestimate the value of free anti-rabic treatment provided by the Government, through the Public Health and Marine Hospital Service, or that splendid

life-saving measure—typhoid vaccination of our soldiers, and I share with you the pride that is justly ours because of the fact that the world's greatest engineering feat —the Panama Canal—was made possible through the monumental work of members of our profession working under Government commission. I wish to give full credit for the $20,000,000 spent annually by our Government in its various branches of public health work, but I wish also to emphasize the fact that this is not fair and just when compared, for instance, with the millions spent annually in reclaiming western desert lands. It is true that the money spent in irrigation is soon returned in improved crops. It is equally true that the money spent for the health betterment of the people returns larger dividends and in shorter time. And good human crops are more important than good farm crops.

It is not the purpose of this paper to find fault but to call attention to additional much needed work and legislation, and perhaps to suggest methods as applied to needs and conditions, especially in our own state.

The population of West Virginia in 1910 was 1,221,119. The increase of population for the decade 1900 to 1910 was 27.4%. The rate of increase of population per year for the same decade was 2.74%. Assuming that the same ratio of increase holds good for the year 1910 to 1913 our population is now 1,321,500.

According to Dr. Goddard's estimate that would give us 5285 mental defectives in the state; and accepting Dr. Laughlin's figures for all classes of defectives we have over 132,000 unfit in the commonwealth who ought not be permitted to reproduce their kind.

In the year 1912 our various state institutions cared for 3354 defectives. Assuming the same increase for each institution for the year 1912-1913 as occurred in the year 1911-1912 the state is now caring for about 3400 unfit of all classes, including physical, mental and moral degenerates.

If we assume that the various county institutions are caring for an equal number, we still have the astounding number of more than 125,000 incapables in the state who are free and unrestrained and at liberty to reproduce their kind promiscuously. And this we have ample evidence that they are doing. Witness Dr. Goddard who says: "The ratio of increase of mental defectives is probably twice that of the normal population." Witness the Second Biennial Report of the State Board of Control, page 120—"Insanity on the Increase." Witness Dr. Johnson, of New Jersey, Dr. Goddard's associate. Witness Dr. L. V. Guthrie, who in his report to the State Board of Control and Legislature, says: "The population of the United States increased 11 per cent from 1904 to 1910; while during the same period the number of insane persons increased 25 per cent." In fact all authorities agree that the mentally defective classes reproduce fully twice as fast as the normal classes. If any one still entertains a doubt on these points let him read "The Kallikak Family" that recent and most wonderful study of heredity published in book form by Dr. Goddard. In fact no medical man can better spend $1.50 and an hour and a half than by securing and reading that most interesting and instructive little volume.

As to the rate of increase of the other classes of the impaired I shall give no figures.

To care for the 3400 unfit of all classes in its institutions in 1912, West Virginia paid out $466,906.86. Should the state attempt to restrain and care for in institutions 125,000 defectives who are enjoying freedom within her borders, she would incur the *apparent* annual expense of $17,000,000. To meet such an expense is obviously impossible; yet it must be done, or some other means must be employed to meet the situation sooner or later, and the sooner the better as constant improvement of public hygiene and our various and most commendable child welfare movements are going to lessen the high mortality and thus raise the ratio of increase among the children of these classes. This will make our problem more and more nearly impossible.

By our childs' welfare work, our rescue missions, our foundlings' hospitals, our children's homes, our district nurses, etc., we are defeating Nature's ruthless method of limiting the increase of the unfit. We must, therefore, devise some more humane means of offsetting this increase of incapa-

bles due to their lessened mortality in childhood.

Our folly lies not in that we are saving a larger percentage of the babies born, but in that we are not seeing to it that a larger percentage of them are worth saving.

The fitter a man is to become the father of the race the more he evades the responsibility of parenthood, and the greater his zeal in assisting the less fit to produce the bulk of the next generation.

There is constant alarm over the lowering birth rate. Better be alarmed over the lowering birth quality. We need quality—not quantity alone.

"One rotten apple will affect a store, two rotten apples will affect it more."

The numbers will not be reduced in the final analysis, if the quality be improved; for there will be a much lowered death rate, due to the greater resistance of the better stock children—The survival of the fittest.

A rigid enforcement of the prohibition of parenthood among the unfit classes during the life of a single generation would lift three-fourths of the load of incapables from the generation following.

In view of the established facts we must dispense with soothing excuses and admit that the present slipshod handling of the unfit approaches criminal stupidity and criminal neglect. We should search out and isolate or sterilize the carriers of mental and criminal defect just as we follow up, isolate and sterilize the carriers of typhoid fever or smallpox. The sum of human misery in America due to contagious diseases is not one-tenth that due to hereditary mental defect.

While conditions demand that we be persistent and faithful in weeding out these social dead loads, may Heaven preserve us from heartlessness in dealing with those whom the fates have given so poor a heritage.

To consider ways and means—There are large numbers of these who do not require institutional care, but can be maintained at home and without assistance from any one outside the family. But some measures must be taken to prevent reproduction.

Many of these useless and helpless ones by proper training in special schools in suitable institutions under state supervision can be made happy and contented and nearly or quite self-supporting. In this and other ways the total cost to the state will be reduced from an impossible to a possible and practicable sum.

Not an inconsiderable part, in fact a very great part of this educational work can and should be done in the public schools by having one or more rooms in every city and town of any considerable size, where the defective and backward can be given special work and training suitable to their individual mental conditions and capacities up to the reproductive age. This would be no added expense to the state, but rather an economy by utilizing the time of *all* instead of, as at present, wasting the teacher's time, retarding the normal children and permitting what special ability the backward children have to lie dormant and decay, while attempting to drag them through the regular school curriculum.

There are a score or more of cities and towns in West Virginia where such special rooms should be established and maintained in the public schools.

Something might be done in the way of legislation restricting the marriage of defectives and habitual criminals, or even prohibiting their marriage unless they first consent to being sterilized.

Perhaps the most important and far-reaching step would be legislation legalizing and enforcing sterilization of certain carefully selected persons from these classes of the unfit, persons who except for the danger of reproduction could safely be given their freedom. This would be as Dr. Guthrie, who advocates such legislation, says, an advance step for West Virginia to take. But why should not West Virginia as well as any other state take advance steps? She has taken advance steps and she will take others; why not this one?

Indiana enacted sterilization laws in 1907 and her experience has gone far toward removing public prejudice against the so-called enforced mutilation of the body. Indiana's plan has been with such persons as might with perfect safety enjoy their liberty except for the danger of reproduction; to offer them their choice of segrega-

tion without sterilization or freedom with sterilization. In one institution alone nearly 800 men and boys have voluntarily submitted to vasectomy; seeming willing that their miseries and misfortunes be ended with themselves rather than to hand them down to posterity as a curse upon future generations. This method of voluntary sterilization or enforced segregation seems a most commendable one and one full of suggestion to other states.

Since Indiana took the lead, Washington, California, Connecticut, Nevada, Iowa, New Jersey and New York have fallen in line, so that sterilization laws are not new and untried, but we have plenty of example and precedents by which to be guided in this matter.

The discussion of sterilization as a means of reducing the birthrate of defectives brings us face to face with great opposition. Opposition from sentiment, opposition based upon moral reasons and religious opposition; all of which in their final anatysis are perhaps identical. We meet also the time honored argument of personal liberty, which might perhaps be placed in one of the above mentioned classes.

All of these arguments have their good points, but I shall not attempt to discuss them fully. This is not a matter of sentiment or even of religion, but an urgent and growing social necessity.

One man's personal liberty ceases at the point where it encroaches upon and destroys that of another and no man has a greater right to bring into existence children for whom he is not able to provide and who, because of their inheritance and consequent environment are destined to become a burden upon society; that is upon you and me, requiring from us for their care and support that which rightfully belong to our own children, than he has to enjoy any other pleasure or luxury at our expense, and without consent.

Another argument against sterilization which deserves consideration is the *apparent* danger of increasing social sin and social diseases as a result of taking away the fear of parenthood. This danger, however, beyond a very slight degree is *only* apparent, as these classes even without sterilization, are not deterred from promiscuous sexual relations by the fear of procreation; there would therefore be only a very slight, if any, increase in their sexual indulgence; and this slight increase is very little in comparison with the increase due to the ever increasing numbers who practice these sins, under present conditions.

Nations have risen, flourished and decayed. History is a record of repetition. America was for years a dumping ground for the unfit of the Old World nations, and we perhaps for this reason, find ourselves beginning to stagger under the burden of the care of our unfit classes and of protecting our own offspring from contamination by them.

We have too long been oblivious to these conditions and needs, and if America is to reverse the current of national tendency toward decay, it behooves us to be active without further delay.

We must bury sentiment. We must revise religion. We must meet necessity with invention. And when we have improved our national stock a few degrees there will be less cause for "muck raking," less "graft" in all circles of political and public life, less bribery and scandal in legislatures, less of the good citizens' money spent for police protection of vice and crime, and less struggle in the industrial world because the mental difference will be less; hence there will be better understanding between employer and employed, and fewer "Mother Joneses" to incite to violence, destruction of property and bloodshed.

As medical and scientific men it behooves us to demonstrate again the altruistic nature of our profession. Let us do all in our power to educate the people to the necessity of any measure of humane character, for the betterment and improvement of the race. And let us take the lead in agitation for legislation looking toward the great humane work of limiting these unfortunate classes for their own sakes and for the purpose of relieving our posterity of this awful and increasing burden, rapidly approaching the impossible, of caring for this great army of human misfits.

No greater monument could be erected to the honor and glory of our profession, even should Friedmann succeed in demonstrating the truth of his "discovery," than to have it said of us that we have produced a

new people, free from hereditary taint and capable of fulfilling the high ideals of the first, the Great Physician.

229 Capitol St.

GLAUCOMA.

Edward E. Gibbons, M.D., Surg. Pres. Eye, Ear and Throat Hospital, Baltimore, Md.

There are so many eyes lost every year from glaucoma, chiefly because the disease is not diagnosed until irreparable conditions ensue, and also from mistreatment, that I beg to call your attention to this subject. Glaucoma is seldom discussed outside ophthalmic circles, but the general practitioner should know at least enough about the condition *not* to instil atropin as is so often done, into glaucomatous eyes to the utter destruction of sight.

The term glaucoma is applied to a train of symptoms of which increased intraocular tension is the most prominent. It forms four per cent of all eye diseases and is the cause of one-sixth of all blindness occurring in adult life. It is to acquired primary glaucoma that I wish to direct your attention. It may be acute, subacute or chronic. Primary glaucoma is very rare in the young, occurring most frequently between the ages of fifty and sixty years. The extremes of age noted have been 13 and 96 years. There are more women than men who suffer with the acute or inflammatory form, while there are more men who are afflicted with the chronic type of the disease. Heredity plays an important part in the causation of glaucoma, the attacks occurring at an earlier age in each succeeding generation. Small hyperopic eyes are especially prone to be affected, inasmuch as in such eyes the circumlental space is encroached upon by a large and well developed ciliary muscle found in hyperopic or far-sighted eyes. Furthermore, eyes with small corneal diameters are very prone to develop glaucoma. Thus the normal diameter of the cornea is 11.6 mm. while that of many glaucomatous eyes is frequently as little as 11.1 mm.

Exciting Causes. — Ciliary congestion brought about by a decided impression made upon the sympathetic nervous system of an emotional nature, such as great joy, grief, anxiety or what not; loss of sleep, fatigue, etc.

Eyestrain from uncorrected or improperly corrected errors of refraction is the caustive factor, in many cases. Mydriatics in susceptible cases by crowding the iris into the periphery of the anterior chamber of the eyeball and thus interfering with the proper drainage of the aqueous humor, may precipitate an attack of glaucoma. Many theories have been advanced to explain the rise of intraocular tension, but the true nature of the disease has not yet been definitely determined. No one theory answers for all cases. Von Graafe taught that hypertension arose from over secretion due to serous inflammation of the choriod, and Donders that there was an increased supply of aqueous humor due to sympathetic nervous irritation. In some cases there is no doubt that increased or altered secretion of intraocular fluids is a causative factor, but most cases of glaucoma arise from tardy drainage of the intraocular fluids, according to the theory of Kneis and Weber. This theory assumes the obstruction to drainage to be located in the infiltration angle of the anterior chamber of the eyeball, that is, the space between the iris and the periphery of the cornea, and consists in blocking of the angle by apposition or adhesion of the periphery of the iris to the cornea or rather sclero-corneal junction, the iris having been pushed forward by the swollen condition of the ciliary bodies. That this theory does not explain all cases is shown by the fact that glaucoma is not infrequently observed in congenital anaridia or absence of the iris. Recently Kneis has drawn a distinction between the acute inflammatory form and the chronic non-inflammatory variety of glaucoma. He conceives the acute form to be an irido-cyclitis anterior and the latter an optic nerve atrophy and recedence of the optic papilla due to an inherent weakness of the lamina cribrosa, or to the presence of an unduly large physiological pit. Bitzos and Jaeger and others believe that the pitting of the optic papilla is always preceded by a papillitis. The aqueous humor is a transudate from the blood vessels of the ciliary region. It passes forward through the suspensory

ligament of the crystalline lens into the posterior chamber and thence through the pupil. It filters through the mesh-work of the ligamentum pectinatum and enters the canal of Schlemm encircling the sclerocornea, and leaves the eyeball by way of the anterior ciliary veins. Priestley Smith says the infiltration of the aqueous through the pectinate ligament may be retarded by an abnormal serosity. Troncosco also believes that the composition of the aqueous or vitreous has much to do with retarded drainage of the eyeball. He demonstrated that the aqueous of all glaucomatous eyeballs contained albumen in excess of the normal amount. He concluded that hypertony is produced in two ways; first, by interference in the escape of that fluid, being albuminous, and secondly, by a mechanical interference due to an advance of the root of the iris. He also believes that the albumen in the aqueous comes from an inflammation in the ciliary bodies or is due to a ciliary arterio-sclerosis. There is no doubt that this latter idea is correct, because there is no pathological change more constantly present in glaucoma than ciliary arterio-sclerosis.

Neisnomoff says in some cases the spongy tissue of the ligamentum pectinatum becomes choked with exfoliated epithelial cells from the iris and ciliary bodies. No doubt in some cases the crystalline lens is relatively too large and becomes dislocated in front of the ciliary processes, thus pushing the iris forward and closing the infiltration angle of the anterior chamber. Exceptional cases are due to the closure of the lymphatic channels around the optic nerve causing the so-called posterior glaucoma. Rheindorf thinks the obstacle to excretion is a sclerosis of the zonula of Zinn or suspensory ligament of the lens; Languer, that there is obstruction of the lymphatics around the venae corticosae Abadie says the sympathetic nerve plays a most important role in the causation of glaucoma. In the acute there is a transient and in the chronic form of the disease a permanent excitation of the vaso-dilator fibers of the ocular vessels. As a proof of this statement he cites the action of mydriatics and miotics upon the eye which dilate or constrict the intraocular vessels as they do the pupil. Some say that general elevated arterial tension is nearly always present in glaucoma, but glaucoma occurs at an age when we are most apt to find hypertension and the disease is not infrequently seen in cases of diminished arterial tension. In a few cases the primary cause seems to be a degeneration of the vessels of the choroid with aneurysmal dilatations appearing at intervals like a string of beads. Wahlfors thinks that degeneration of the choroid interferes with the course of the intraocular fluids and causes the channels of exit to become blocked. After this cursory review of the causative factors in the production of elevated intraocular tension I would sum up as follows: Glaucoma is due primarily to an altered secretion and secondarily to retardation of excretion of intraocular fluids, most frequently of the aqueous but also of the vitreous humor.

Acute Glaucoma—Acute glaucoma, also called inflammatory or congestive glaucoma, may come on very suddenly (glaucoma fulminans), the patient retiring at night, for instance, perfectly well, to awaken irreparably blind. Usually, however, there are certain prodromata in which the vision is more or less obscured, the cornea slightly steamy and anaesthetic, the pupil moderately dilated and sluggish. The anterior chamber is shallower than normal and there is present a circumcorneal injection of a violaceous hue and finally palpation of the eyeball reveals the presence of hypertension. During this stage artificial lights seem surrounded by a rainbow of colors due to an edema of the epithelium of the cornea. If the ocular media are clear enough the ophthalmoscope will reveal a turgid condition of the intraocular vessels but no pitting of the optic papilla. The attack passes off and the eye returns to the normal condition, save that there remains a considerable decrease in the accomodative power. The patient discovers that he is unable to read as well as formerly and applies for a change in his glasses. With stronger reading lenses his vision is once more brought to the normal. These prodromata recur once or twice a month or so, and may continue to recur for months or years until they finally terminate in an acute attack. This is ushered in by excruciating pain extending from the eye to the side of

the head and face, and not infrequently as far as the shoulder, and is often associated with nausea and vomiting. The lids and ocular conjunctiva are more less edematous. The cornea is decid 'y hazy, so that the iris is scarcely visible through it. The haziness may be more or less dense in spots, imparting a mottled appearance to the cornea. The pupil is dilated and immobile and emits a greenish reflex, from which latter fact the disease gets its name (*glaukos,* green). The pupil is seldom uniform in its dilatation and the tissue of the iris is discolored and its markings effaced (iritis). The aqueous and the vitreous are so turbid that no view of the fundus of the eyeball can be gotten. The pupil is expanded by overaction of the sympathetic nerve. The dilator of the pupil and the vasodilators of the ocular vessels arise together in the medulla and follow the same course, they are thrown into action at the same time. The sight at this time, partly from the turbidity of the media of the eyeball and partly from the pressure upon the optic nerve fibers as they enter the eye, rapidly falls off until large objects or fingers held close to the eye can alone be seen. Palpation of the eyeball reveals a stony hardness. After a few days or weeks the intensity of the attack subsides, but the vision has suffered considerable diminution. After several such attacks the eye is rendered entirely sightless. We now have a condition of absolute glaucoma. The eye presents a dull, expressionless look, the cornea is surrounded by a zone of purplish hue, the anterior ciliary vessels are engorged, the pupil is dilated and displays a border of black pigment. The lens and narrow rim of the atrophied iris lie in contact with the posterior surface of the cornea, obliterating the anterior chamber of the eyeball. The tension of the eyeball is high unless nutritive degenerative changes have begun. The ophthalmoscope now reveals the characteristic cupping of the optic papilla. It is white or bluish white, the vessels crowded to the nasal side of the disc, and are seen to make sharp bends as they pass into the surrounding retina over the edge of the pit. The eye may and often does remain painful long after the vision has been destroyed. Degenerative changes finally ensue and pain subsides inasmuch as the intraocular tension is abated thereby.

1102 W. Lafayette Ave.

(TO BE CONTINUED)

A CASE OF INTRACRANIAL TUMOR, POSSIBLY CEREBELLAR.

M. Mendeloff, M.D., Charleston, W. Va.

The cerebellum consists of gray matter on the surface and white matter on the interior. It lies in the inferior occipital fossa of the skull, beneath the cerebrum, from which it is separated by the tentorium, which is a process of the dura matter. It consists of a central portion and two lateral hemispheres. In this space bounded by bones on both sides are contained the nervous structures that unite almost all important nerve fibre tracts that issue from the brain and play an important role in bodily functions.

The functions of the cerebellum are still obscure. According to Krause it is the task of the cerebellum to regulate in a reflex manner the equilibrium of the various movements. From its connections with the sensory tracts in the spinal cord and its continuation with many motor centers is explained the double function of cerebellum, namely, motor and sensory functions. It acts neither independently nor spontaneously, but requires impulses that are transmitted to it from the periphery.

The functions of the cerebellum can be studied by extirpation of the cerebellum. According to Mills complete ablation of the cerebellum produces (1) Ataxic changes; (2) Atonic changes; (3) Asthenic changes.

The animal shows disturbances of station and locomotion and persistence of unsteadiness of muscles and limbs.

The cerebellum is the most favorite site for tumors and granulomata. W. C. Krause has analyzed the lesions and symptoms in 100 cases of disease in this part. He found sarcoma in 22 cases; tubercle in 22 cases; glioma in 18; abscess in 10; tumor of unspecified origin in 13; cyst in 7.

According to Theodore Krause, in his 75 cases he encountered 25 cases of solid tumor; 17 cases of gummata and tubercle; 11 cases of cysts.

Symptoms—Headache is conceded to be the most important symptom by Krause, Mills, Oppenheimer. It may vary in mode of onset as well as severity.

Vomiting is the second symptom complained of. In Krause's 75 cases it was absent 5 times. It is produced, according to Mills, by dural irritation. In many patients it may be the only symptom while in others it is accompanied by severe headaches.

Vertigo. According to Osler it is more constant in this affection than in any other brain lesion. It was absent in only one case out of 75 studied by Krause; it may be due, according to some, to the involvement of nervous vestibularis, by means of which the semicircular canals are connected with the cerebellum.

Optic neuritis and choked discs were found in all Krause's patients. The existence of it depends upon duration of the disease. According to Graefe, it is produced by the tumor pressing upon the cavernous sinus, thus producing congestion of the ophthalmic vein and central vein of the retina. Leber suggests that it is produced by an inflammatory process. The value of optic neuritis is thus expressed by Bramwell: "The absence of double optic neuritis does not necessarily exclude the presence of the tumor, but the fact that there is optic neuritis does suggest doubt, and unless other symptoms of tumor are clearly defined, or unless the physician feels satisfied that there is no condition present except tumor, which could reasonably be expected to account for the phenomena of the case, he will be wise, in absence of double optic neuritis, to hesitate before making a positive diagnosis."

Ataxia;: According to Krause, this manifests itself by a certain disordered course of otherwise regularly working muscles without paralysis of any group of muscles being present. The gait resembles that of the staggering of a drunken individual. It may be but slightly present but when complicated by vertigo it is very pronounced. As a rule the patient staggers and tends to fall to the affected side. Other symptoms are nystagmus, motor disturbances and paralysis.

CASE.—W. M.—Age 16, was admitted to the Charleston General Hospital with the diagnosis of chorea.

Family History.—No history of syphilis, tuberculosis, or mental disorders.

Personal History.—Birth normal, no instruments, breast-fed. When a child he had the habit of throwing his head back; this habit persisted up to the age of five years. Shortly after he had an attack of measles with an uneventful recovery. Father thinks that the boy was "pretty smart," and while attending school he made an average of 80-90% in his grades. He attended school for five years. The last one-half year he did not attend school on account of no school being near by.

Child has always had a large head.

In December, 1912, he sustained a fall; the fall apparently did not hurt him for he walked home with no assistance. Shortly after his father noticed him throwing his head back, and on one occasion his mother had to straighten his head out. Soon he began to have dimness of vision, drowsiness, staggering gait while he walked; also became nervous and could not hold objects in his hands.

About five or six weeks ago the father noticed that the boy was becoming excessively fat, that his appetite was ravenous. His body and face were swollen at times, and he could not stand without swaying. He suffered from severe headaches but never vomited.

Four or five years ago the boy had a discharge from his right ear, but that cleared up without giving him any trouble.

On Examination—A well nourished boy, rather fat.

Head—Large, and of irregular shape.

Eyes—Slight nystagmus, right pupil reacts sluggishly to light while accommodation is good. Left pupil normal. Choked discs found by Dr. P. A. Haley.

Neck—Short, thyroids slightly enlarged.

Pulse—Slow, 64-72.

Temperature—Normal or subnormal.

Lungs and Heart—Negative.

Abdomen—Negative.

Genital Organs—Undeveloped and infantile in character. Legs are of a bluish tint and a marked dermographia is present.

Urine and Blood—Negative.

Wasserman Reaction—Negative.

Gait is markedly ataxic. Patient walks as though he were drunk and in walking he sways to the right.

Knee Jerk—Exaggerated, particularly on right side. Finger-nose test positive. No Babinsky reflex present.

While in the hospital he developed incontinence of urine.

The boy's mentality is good. He answers questions put to him without hesitation and he is fairly quick at figures.

In discussing this case we must bear in mind that several conditions may give rise to this train of symptoms, and I will endeavor to arrive at a diagnosis by exclusion.

1. *Tabes Dorsalis:*..We can easily exclude this by the negative Wasserman reaction and by the exaggerated *knee-jerk;* the condition is rarely met with in children.

2. *Pituitary Growth:* It is rather difficult to exclude this condition and this condition should be borne in mind. The facts against it are the infrequency with which it is met and the absence of sugar in urine. However, the sugar tolerance is not present in all cases, and only when the anterior lobe is affected.

3. From brain abscess; this condition is not frequent, and is rather rare in childhood. The headache is less constant and less severe than that which obtains in brain tumor. Optic neuritis is not so frequently met with. There is a fever, leucocytosis, and tenderness present.

4. *Tubercular Meningitis:* The onset in such a condition is with convulsions. There is vomiting, fever and twitching of muscles. When eyes are examined, choroid tubercles are present.

In analyzing the symptoms of the case, especially the marked ataxic gait, tendency to sway to right and headache, incoordination, exaggerated knee-jerk, optic neuritis, we are inclined to believe that this is a case of cerebellar tumor. As the patient refused an operation, he was sent home and we have not heard anything from him.

In conclusion I wish to express my thanks to Dr. J. W. Moore and G. B. Capito for their kind advice and help.

Correspondence

LETTER FROM EUROPE.

THE 17th INTERNATIONAL CONGRESS OF MEDICINE.

Reported by Frank LeMoyne Hupp, M.D., Wheeling, W. Va.

It is a matter of no little regret to the writer, that this letter could not have been prepared in time for the September issue of our Journal; but the busy whirlwind life here in London during the session of the largest medical congress the world has ever known, with 26 sections, each holding all day meetings, the general sessions, symposia, with the attending of museums wonderful, all of them, historical, hygiene and tropical development, preventive medicine, purely pathological and anatomical exhibits, the commercial too, must not be forgotten, to say nothing of the innumerable social functions, garden parties, and dinners and receptions, all this and more too, would seem reason sufficient for the tardy appearance of our communication to the members of our State Medical Association.

On the night of August 5th a brilliant Government banquet was attended by about 500 delegates, representing nearly 8000 physicians from 28 countries, presided over by Lord Beauchamp, First Commissioner of London, on behalf of the Hospitality Committee. At this banquet most of the leaders of medical thought in England and abroad were present. Mr. Morley's welcome at this dinner was a wide open one. He mentioned how a whole generation had passed since the Congress had met on British soil, how many renowned men, like Darwin, Huxley, Pasteur, Virchow, Lister, Koch, Paget, Gross and a host of others, renowned men devoted to the pursuits of medicine and the healing art, had gone to their reward having left behind them legacies rich indeed.

A generation of earnest and continuous toil, ingenuity, research, thought, invention has produced endless discoveries in our field of work. Mr. Morley spoke of the gratitude and pleasure of the English people in having the Congress meet on the banks of the serene Thames after the last session which met on a mightier and more beautiful river, though of a more embarrassing political association, the Danube, for it will be remembered by our readers that my letters at that time were from the beautiful City of Budapest. Sir Thomas Barlow, the president of the Congress, responded to the toast: "The Science-Art of Medicine," and remarked in the course of his speech that his Government had given its *imprimatur* to this Medical Congress, thus recognizing that there was no branch of knowledge which had a greater and more pervading influence on the welfare of the body politic than the Science-Art we had gathered here to advance. He said "Science-Art" advisedly, for the Government was concerned with medicine.

not only as a branch of learning which claimed liberal titles from the auxiliary sciences, but as an art which strove to ameliorate and even to cure many of the physical ills of mankind. Medicine he considered the greatest portion of the growth of the science of living and its advance in every department concerned every single human being on the planet. The Governmental recognition was a great encouragement in their claim that our science of medicine overstepped all racial boundaries, that it was in the highest and best sense an affair of the world of politics, and that it contributed peace and good will towards all men. This Congress, he maintained, met for solid work and not for amusement, and here we might add that our West Virginia Association might emulate this thought, that the session would represent an advance all along the line in the natural history of disease, of the newest methods of its recognition, and of the most effective means of treatment. Sir Thomas further spoke of the pleasure every man attending the Congress would have in pondering over the lessons of the many sided past, with its broken lights, its chequered path through obscurantism and empiricism, its glorious episodes of discovery, and emancipation. We are right in rejoicing over the present vantage ground of solid and sane achievement, he said, and how we shall be able to look forward to an opening day of further enlightenment with courage and hope.

The following day, August 6th, the formal opening of the 17th International Congress of Medicine by Prince Arthur of Connaught, on behalf of King George V, at Albert Hall was an impressive and brilliant spectacle. This large circular auditorium which will seat comfortably 10,000 people was filled to its capacity, by the leading physicians of the world, accompanied by their ladies and friends; on an immense platform which was decorated with trophies of flags of all nations, were seated the delegates of foreign Governments, constituting a brilliant group in varied costumes and decorations. On the rows of seats close to the platform were many picturesque figures, army medical officers of different nations in their military uniforms and emblazoned with glittering medals and insignia, and additional color was added to the scene on the arrival of the principal personages in the opening ceremony. The Royal Prince, Sir Edward Grey, Sir Thomas Barlow, the President of the Congress, Prof. Paul Ehrlich, the discoverer of salvarsan, the world-renowned surgeon, Prof. Kocher, of Berne, Switzerland, and many of the foreign delegates were conducted to the platform by members of the organizing and reception committee — distinguished British surgeons and physicians, wearing their academic gowns—in processional array, attended by mace bearers. Indeed the assemblage when completed was animated and picturesque.

Prince Arthur welcomed the delegates and members in the name of the King, and in very happy and well chosen words explained that, though the Congress was meeting in London, it was not England alone but the Empire which was the host. Sir Edward Grey who followed offered the good wishes of his Majesty's Government and struck the keynote of the conference when he said that science is in the true sense of the word international; that while it has its controversies, they are not national controversies, for those who are worthy to pursue it are in nowise separated in its pursuit by political or national boundaries.

Sir Thomas Barlow in his inaugural address brilliantly reviewed the progress of medicine and surgery since the Congress was held in London in 1881. This address has been considered everywhere so much of a classic that I shall take the liberty of giving it in full.

President Barlow's address:

A whole generation has passed away since the International Medical Congress last met in London. What a magnificent galaxy of talent in medicine, surgery and pathology was gathered round the Prince of Wales, who was our Royal patron at that time! (Hear, hear.) It is fitting that we should follow the admonition of Ecclesiasticus and praise famous men and the fathers that begat us. Our president, Sir James Paget, was a great clinical pathologist. (Cheers). His mind was stored with all that was then known of the morbid anatomy of surgical disease and injury, and of the family relationships of the different diatheses He was a splendid teacher and possessed a lucid eloquence and a moral fervour not excelled by any of his contemporaries. Jenner and Gull, Wilks and Gairdner

were our great teachers of clinical medicine. We shall not see their like again, for their careers began before the days of specilization and they were amongst the last of the great general physicians of our time. Hughlings Jackson was the philosophical exponent of the new neurology. Many of his forecasts were verified by the experiments of David Ferrier, of which I may say there was a remarkable demonstration at the 1881 Congress. Jonathan Hutchinson was the patient, accurate recorder of the natural history of disease in multitudinous departments, and characteristically enough he was the organizer of our Congress Clinical and Pathological Museum. The pioneers of abdominal surgery, Spencer Wells, Thomas Keith and Lawson Tait, were with us. Huxley, the most brilliant expositor of natural science of his time (cheers), discoursed to us on the relations of medicine and biology. William Bowman, whose work on the minute anatomy of the eye was the foundation of modern English ophthalmology, was one of our most useful members. Last of all the Englishmen whom I will mention was our great Lister, then in the zenith of his grand career. (Cheers.) He has but lately been taken from us in the fullness of years, but we commemorate him today in the medal of our Congress. (Cheers.)

Foreign Medical Scientists.

Our foreign brethren were not less illustrious in the bede-roll of medical and surgical achievement. Virchow, the Nestor of morbid anatomy, honored and beloved by us as by his own countrymen, delivered a fine historical discourse on the value of pathological experiments. Volkmann gave a critical survey of the recent advance of surgery. Robert Koch (cheers) gave what may be truly called a path-breaking demonstration of the microbial findings in several morbid conditions, and he illustrated their characteristic growth on different organic media. Von Langenbeck and Esmarch spoke for military surgery, Donders and Snellen for ophthalmology. Baccelli, Muri, and Pantaleoni represented Italian medicine. From the United States came Austin Flint, the accomplished physician and master of physical examination; Billings, prince of medical bibliographers, and Bigelow, the famous surgeon. The great French school was represented by Brown-Sequard and Charcot, Lancereaux and Bouchard and Verneuil, and a host of others; but there was one great Frenchman with us who towered aloft amongst all his cotemporaries, and who, though not a medical man, exercised by his discoveries a profound influence on the medicine of the world, and that was Louis Pasteur. In his address on "Vaccination in Relation to Chicken Cholera and Splenic Fever," he gracefully linked his most recent researches with the time honored labors of Edward Jenner on cowpox. Time fails me to speak of other great and honored names, but surely we may say there were giants in those days. (Cheers.)

Developments of Experimental Methods.

Now let us realize to ourselves that the Congress of 1881 marked not the parting of the ways but emphasized the notable fact that the parting of the ways had already been passed. The times of superstition, of empiricism, and of transcendental speculation had vanished. But what of the period of accurate and detailed observation? That was neither superseded nor completed—but it was already supplemented and redirected into more fruitful channels by the new development of experimental methods. If it had not been for the work of Pasteur, Lister and Koch, which was expounded to us 30 years ago, how poverty-stricken would have been the output of medicine and surgery in this our Congress of 1913. The great men—both observers and experimenters—of whom I have spoken were like mountain peaks towering above the plain of ordinary medical humanity, and we sometimes sadly ask where are the mountain peaks now? That is a shallow and unenlightened question. For indeed, thanks to the unremitting labors of workers in multitudinous paths, we have attained a glorious heritage—not of high mountain peaks and deep valleys—but a lofty and magnificent table-land of well-ordered and correlated knowledge. Consider the bare fact that the 15 sections of the 1881 Congress have, by the inevitable specialization and concentration of work, become 23 sections and three subsections in 1913, but so imperative is the demand for mutual conference that we have no less than 14 meetings arranged in which sections have found it desirable to discuss various problems in joint session.

In what ways have we pursued and expanded the work of our fathers? First, unquestionably, in the development and application of bacteriology. Koch's great discovery of the life-history of the tubercle bacillus was published in the year after the London Congress, and what an enormous body of knowledge has grown out of that great discovery! We are learning to discriminate between the essential and causal factors of disease and the concomitants, such as combined and terminal infections. The by-products and the antibodies developed to neutralize bacterial life, of which we see the beneficent *role* in Nature's own cure of an acute specific disease, have been made to yield their share in two important methods of treatment, viz., serotherapy and vaccine therapy. I need not dwell on the history of the Klebs Loeffler bacillus and the causation of diphtheria, nor on the indubitable efficacy of the most important of all the antitoxins, nor on the singular parallelism between the bacteriological findings in atypical throat exudations with the ambiguous symptomology which clinical observation reveals. Nor need I dwell on the extension of bacteriological investigation of typhoid fever, which has been fruitful in new measures of prophylaxis and defence of the community. There are still great gaps in our knowledge of the infective organisms of the acute specific diseases, but it is a gain to have learnt from the study of recent epidemics that infantile paralysis must be grouped with the infective diseases and thanks to Flexner we know many of the reactions of its elusive organism. Great advances have been made in proto-

zoology, in helminthology, and indeed in the whole subject of parasites to the diseases of man and animals.

Tropical Diseases.

In tropical diseases these studies as well as bacteriology have brought about a rich harvest. Malta fever, plague, malaria, sleeping sickness, have all yielded more or less of their secrets. Sometimes the whole cycle of the disease has been discovered, and its successful treatment has been evolved. In other cases, as in malaria, sleeping sickness, and yellow fever, where only parts of the natural history of the disease have been elucidated, nevertheless enough real knowledge has been acquired to enable important, though sometimes costly, hygienic measures to be sucsessfully employed. Here it is fitting that we should offer our homage to our American brethren for their splendid hygienic work in Cuba, in Panama, in the Philippines, and in Costa Rica, and for the efforts which they are organizing for a world-wide crusade against ankylostoma disease. (Cheers.) Chemical pathology has widened our knowledge and our resources, and the mystery of immunity has been to some extent illuminated. The detailed examination of the morphological elements and the chemical characters of the blood and of other body fluids has eventuated in the rewriting of some of our physiology, and the pathological extension of the knowledge thus gained has improved the diagnosis and the treatment of several diseases. Thirty years ago Ord demonstrated to the Congress of that time examples of the disease, which he had defined as myxœdema, but which, with surer instinct, Gull had described as a cretinoid state in adults. The gradual evolution of the doctrine of thyroid insufficiency and of its therapeutics is a model of induction. And this important discovery has given a great impetus to the whole study of internal secretions as well as to the employment of organic extracts, of which the last and most interesting is that of the pituitary body.

The empirical and then the experimental study of small variations in the ordinary diets of adults and children and infants in different social strata and in different countries has been fruitful in many unexpected ways. The great milk problem is still with us, but we have learnt the blunders of our early generalizations. Cleanliness in the milk supply from start to finish has a far more exhaustive meaning than in days gone by. The curious disease beri-beri, which some of us have long thought had parallelisms with scurvy, has been shown, at all events amongst rice-eating people, to depend on the loss of the nutritive material just internal to the pericarp which the ordinary process of milling removes. The patient study of chronic alcoholism has opened up a new chapter of nervous diseases. The routine traditional employment of alcohol in disease has happily been largely discredited. The open-air treatment of all forms of tubercular lesions has had a wide indirect influence, not only on the treatment of other chronic ailments but on daily life of the people. The recognition and radical treatment of oral sepsis due to damage to the gums in consequence of various disorders of the teeth has been followed by remarkable benefit. A strong case has been made out for intestinal stasis as a cause of various forms of malnutrition and for operative measures in dealing with slight mechanical obstructions, and on this subject we hope for further evidence. The additions to diagnosis yielded by X-ray exploration are like the creation of a sixth sense, and its curative applications and those of radium are the opening of a new chapter of therapeutics. I ventured to hint that medicine had now and then led to the re-writing of some chapters of physiology, and I may add that recent researches on diseases of the heart have led to the re-editing of neglected knowledge of the minute structure of heart muscle, and of orderly and disorderly mechanism of its movements.

Triumphs of Surgery.

Of the magnificent triumphs of the surgery of this generation it is beyond my power adequately to speak, but I can refer to the wide fields opened up through the beneficent protection of Listerism. We are staggered by the reasoned and calculated audacity of our brethren when sinuses of the skull are drained, cerebral abscesses evacuated, cerebral tumors removed, the pituitary body even investigated; when pleuro pericardial adhesions are freed to the great relief of the heart; when different parts of the alimentary canal are short-circuited, and when one or other damaged viscus is removed either entirely or in part. The active co-operation of surgeons and physicians has gained for us some knowledge of what Moynihan and others have happily described as "living pathology," and we gratefully acknowledge the valuable information of correlated symptoms, signs, and morbid conditions, and the statistics of comparative frequency which surgical experience has brought to the common store, The supreme gain after all is that many more useful lives are saved than in the last generation, that the realm of grave and hitherto incurable disease is invaded on every side, and that the danger of operation, *qua* operation, is retreating to a vanishing point. (Cheers.)

Public Health.

It is impossible to enumerate the varied ways to which medicine has co-operated with economics, social legislation, and philanthropy, which we sum up briefly as public health The schoolhouse and the scholars, the home of the poor, the colliery and the factory, the dangerous occupations, the sunless life of the mentally deficient, have benefited, and will benefit still more, by its friendly invasion. (Cheers.) And I venture to foretell that not many years hence every department of life and work shall be strengthened and purified and brightened by its genial and penetrating influence. (Cheers.) Surely I have said more than enough to justify my contention that we have come into a goodly heritage and that that heritage is like a lofty and magnificent tableland of knowledge and efficiency. The

gaps are being filled ;we are no longer isolated, but are working side by side on adjacent areas which are inseparably connected. Every day we gain fresh help from the auxiliary sciences, and we realize more and more the unity and the universality of medicine. Brethren from foreign lands, we thank you for the treasures new and old of observation and experiment, and of a ripe experience. which you have brought to this Congress for the common weal. I venture to affirm that the output of work of the Congress week in its 23 goodly volumes will astonish civilized countries by its amount and its solid worth. I welcome you to our dear country, this ancient home of freedom, and I bespeak not only for the medical men of the British Isles, but for our brethren of the oversea dominions of this great Empire, who join with us in our cordial greeting. May this Congress add to the common store of fruitful and useful knowledge; may it increase our gool fellowship, our mutual understanding and co-operation, and may it help to break down the barriers of race and country in the onward beneficent march of World Medicine. (Cheers).

The Governmental delegates were heard following Prof. Barlow, and as each representative stepped to the front of the platform the great organ of Albert Hall, presided over by the organist of Westminster Abbey, pealed forth their national anthem. A storm of applause greeted the first delegate, who was Prof. William Thayer of the Johns Hopkins University, and the "Star Spangled Banner" never sounded more beautiful.

Each afternoon throughout the week a general address was delivered at 2 o'clock in Albert Hall. The first of these addresses was by Professor Chauffard of Paris, his subject being the "Scope of Medical Prognosis." This talk, although in French, was well attended. Medical prognosis was handled from the viewpoint of methods, evolutions and present limitations.

The second of these addresses was delivered by Prof. Harvey Cushing of Harvard University, and he chose for his subject, "Realinements in Greater Medicine, their Effect upon Surgery and the Influence of Surgery upon them." This masterpiece in medical literature should be read by every member of the profession. To hear it was indeed a rare privilege, to read it and assimilate the carefully prepared sub-headings, each a classic essay of itself. will be added joy. Prof. Cushing's subject proved rather a surprise to many, as his audience rather believed the orator would expound some of his own theories and elaborate some of the points he has developed along the line of brain surgery. A few of the topics considered in this splendid oration were: Medical weapons of other generations; restrictive legislation of 1876; the effect of the work of Huxley, Virchow and Pasteur on medical practice; some of the achievements due to animal experimentation; the iniquity of the anti-vivisection laws; the approaching transformation of the tropics; the elimination of pain; the monumental work of Lister; the relation of medicine and surgery, modern surgery and the formation of the specialties; the tendency of internal medicine and surgery to converge; the advantages of inter-institutional visitations; the wide applications of experimental pathology; organization of hospitals and medical schools. This address, as we have said, must be carefully read to be properly appreciated. Time will not permit me to do more than quote from that part of Dr. Cushing's address which relates to the organization of hospitals and medical schools:

"And this brings me to the final subject on which I wish to touch, one which of late has aroused much discussion and has been thoroughly ventilated here in London before the Commission on Medical Education—namely, the relation toward the hospital and medical school to be held by the new order of physicians and surgeons and their junior associates. Herein lie problems a source of anxiety—to many—problems, however, which will not be solved by shunning them. Our great public hospitals have ceased to be grievous and infected places, and people are rapidly losing their dread of them. Meanwhile, as disease becomes better understood, the complexities of its accurate recognition and sucessful treatment become ever greater and require the studies of an increasing number of co-workers—a situation which makes a most unsatisfactory matter of the office or home consultation. In consequence, people in greater and greater number desire when ill to enter institutions for study, and this applies to the well-to-do as well as to the poor. Consider, for example, the present-day methods essential for the recognition and treatment of a single disease, which with its varied complications is possibly not only the most prevalent one the doctor encounters, but which has been regarded as the one most easily prescribed for. Indeed, so definite and so effective were his therapeutic measures supposed to be that the shabby habit was acquired of making the administration of iodides and mercury serve as an aid to diagnosis—a habit which often led to added confusion. Today the

clinical acumen of the practitioner, experienced though he may be, has given way to a chemical test by a laboratory expert, and only when the disease is thus proved to exist is a diagnosis accepted. The discovery of the spirochæte and the study of its biological habits have taught us that in certain parts of the body, especially the central nervous system, the organism is not accessible to the former methods of treatment, or, indeed, if reached, that it may have acquired an immunity and resistance toward the very drugs supposed to destroy it.

Let us suppose that the malady has taken the form of a cerebral gumma. The patient has headaches, and there is a suspicious clinical history. What is required? A lumbar puncture, a cytological study of the fluid, and the Wassermann test requiring one specialist; an ophthalmological and perimetric examination needing another; a neurologist certainly for a careful study is necessary to determine if possible the situation of the lesion; probably, too, a roentgenologist; and in the end, perhaps, another to administer salvarsan; or, in the case of a non-absorbable fibrosyphiloma, as likely as not an operation will finally be needed. And this for what was yesterday a simple problem, easily faced by the practitioner single-handed! Thus, scientifically accurate diagnostic measures and a new form of therapy requiring blood-letting and manipulative skill make a craftsman even of the syphilographer. This is a far cry from a written prescription, a bottle and spoon.

No, the practitioner cannot be a chemist, neurologist, bacteriologist, ophthalmologist, radiographer, surgeon, and what-not rolled into one, and do effective work. The Jonathan Hutchinsons of the profession are, alas, rare. And as the co-operation of those expert in special lines becomes more and more necessary the tendency will grow for these conjoint studies of individual cases of disease to be carried out in properly equipped hospitals, where the data essential for a diagnosis can be more quickly and effectively accumulated and the paraphernalia for treatment kept in smooth running order from constant use. This is particularly true in as far as it concerns surgery, for in proportion as this form of therapy is the more dangerous, so much the more need is there for surrounding it by every possible safeguard against misuse or accident."

These, then, are some of the transformations and realinements which are taking place in medicine, and which, directly or indirectly, have come through the great contributions made a generation ago by those with whose names this address was introduced; the public is not only awake to the great developments in medicine which animal experimentation has made possible, but ready to participate in their application for the general welfare; the physician at large, the valued family adviser, is reaching out toward the important problems of hygiene and preventive medicines while the individual patient, as the complexities of disease unravel, needing more and more specialized and more and more surgicalized treatment, is gravitating toward the modern hospital; the departments of the preclinical medical sciences, which formerly existed in splendid isolation, find their fences down, owing to the levelling influence of experimental pathology; hospital organizations are undergoing charges which will ultimately require the full time and continuous activity of those who serve them for the benefit alike of student, of science, and of patient. The kaleidoscope of medicine is turning; these are merely some of the present rearrangements of the images as I see them —new patterns from original fragments—for "Is there anything whereof it may be said: See, this is new? It hath been already of old time, which was before us."

Sir Thomas Barlow, in proposing to accord the thanks of the Congress to Prof. Cushing, said that the keynote of this Congress would probably be the final burying of the remains of the old jealousy between medicine and surgery.

"One point he wished to drive home was the enormous change of the lay attitude to vivisection; they now knew that enlightened lay men and women realize the importance of many methods of vivisection for the benefit of the race. The steps between scientific investigation and their direct utilitarian application were not single steps, but a series of steps. The peculiar benefit and obvious utility of experimental investigation was not at once evident. Many of them would be staggered at the forecast which the orator of that afternoon had given as to the position of the modern hospital and the relation of the family physician to the hospital."

Prof. Paul Ehrlich's address on "Recent Progress of Chemo-therapy," was heard by the entire Congress. The name of the foreign savant and master in research work provoked a storm of applause whenever it was mentioned in the sections; the climax of enthusiasm, however, came when he was brought to the front of the platform and introduced by the President of the Congress.

Prof. Paul Ehrlich of Frankfurt, the discoverer of salvarsan, and the greatest living master of those chemical researches into parasitology which are giving chemotherapy the front place in the scientific treatment of disease, was before us and it was indeed an inspiration.

It is ten or twelve years since the bold speculations of this famous German pathologist, now in his 59th year, began to attract general attention, when the doctrines of Metchnikoff were still comparatively new to the public. Bacteriologists in all countries soon had to admit that his specu-

lations, bold as they seemed, were supported by solid facts discovered by the most painstaking research, and that their author was a man of really original genius. As his theories of immunity and the way in which the forces of nature defend the body against infective diseases developed, Ehrlich was constantly driven, as is so often the case in modern science, to invent a new technical vocabulary to express his novel conceptions; but so deeply has his work impressed itself that now it has become part of the accepted scientific terminology. Important as were his researches in connection with trypanosomiasis, it is his last and most sensational exploit, the discovery of salvarsan, that has made his name familiar far beyond professional medical circles; and naturally much of his address was devoted to the properties and action of this extraordinaay drug and to his conception of curing disease by one single dose of medicine, which he calls the *therapia sterilisans magna.* It is now admitted that salvarsan does not achieve that effect as Ehrlich at first hoped it would; and there are other respects in which his earlier reports have had to be modified. But evidently he has not abandoned his ideal. His defense of his theories was a masterly piece of work, and as it will be published in full in our American journals, only mention of this epoch-making address is made in this letter

A remarkable address was given in the "Section of Radiology" by Dr. Robert Abbe, the senior surgeon of St. Luke's Hospital, New York, who opened a discussion on radio-therapy for malignant growths. Dr. Abbe, who is the pioneer of the method of making a surgical incision and burying the radium tube within the tumor structures, said that surgery had expended its utmost efforts in cutting out every vestige of disease, or destroying it by cautery, caustics, or freezing. But although these procedures frequently cured the patient, they never cured the disease; they only removed it. For a cure it was necessary to look to forces like organic chemistry or bio-chemistry, or to agents like the Roentgen rays and radium.

Dr. Abbe demonstrated by photographs the effect of radium on seeds and bulbs. After a time-measured exposure of seeds to varying amounts of soft and hard rays issuing in incessant streams from this wonder-working mineral, the results were that the seeds placed nearest to the radium were totally destroyed, while the seeds which were a little further removed received a stimulating influence, other seeds presented only a retarded vitality and marked depression of growth. Dr. Abbe went on to show in a very interesting way, using a wonderful collection of photographs, that these same changes could be produced in the cells whose erratic overgrowth had brought about life-destroying tumors in the human body.

Tissue grafting.—The ingenuity of man and the adaptability of Nature were both illustrated by the discussion which occupied the Section of General Pathology. The idea of grafting living tissues from animal to animal is by no means new. John Hunter had indeed carried out successful experiments on these lines, and Professor Shattuck had brought from the Hunterian Museum to the Congress the actual specimen of a cock's comb to which Hunter had grafted with success a human tooth. Since Hunter's time many workers have met with some measure of success, and Professor Max Borst, of Munich, gave a fascinating summary of the work done by himself and others, and illustrated it with a remarkable collection of lantern slides.

Yet this work is in no sense new to Americans for the wonderful achievements of that wizard in experimental surgery, Alexis Carrel, of the Rockefeller Institute, are familiar to the readers of this Journal.

The subsection of Pharmacology held in the laboratory of the University College on Saturday afternoon, was most interesting. The demonstration which excited the most attention, without doubt, was the artificial kidney devised by Prof. Abel of the Johns Hopkins University, assisted by Prof Leonard Rowntree.

Prof. Abel presented a new and ingenious method of removing substances from the circulating blood, which can hardly fail to be of benefit in the study of some of the most complex problems. By means of a glass tube tied into a main artery of an anaesthetized animal the blood is conducted through numerous celloidin tubes before

being returned to the veins through a second glass tube. The celloidin tubes are immersed in saline solution. All diffusible substances circulating in the blood pass through the intervening layer of celloidin, and can be found in the saline solution, where they can be subjected to fractional analysis. In this way Professor Abel has constructed what is practically an artificial kidney. In many instances the working of the added excretory organ is more rapid than that of the actual kidney of the animal: 3 per cent per hour of salicylic acid can be removed from the blood. Although primarily the apparatus is of use in the estimation and analysis of the diffusible contents of the blood, it is possible that the principle may ultimately be adopted in the treatment of disease.

Prof. Abel also presented a frog brought from the tropics, from which he had been successful in expressing a granular secretion from the back of an ear, and from this he had isolated two substances acting identically as digitalin and adrenalin, and expressed the opinion that these important and useful drugs might some day be manufactured synthetically. This same secretion in the frog was used by the natives for poisoning the tips of their arrows.

The Section in Surgery was always crowded. Unlike the meetings of this interesting section of our American Medical Association, the room provided was far too small to accommodate those desirous of hearing the papers and discussions, so that hundreds were turned away unable to gain admission. Among the notable savants in the world's field of surgery reading papers and taking active part in the section work were the following: Sir Victor Horsley, Sir Watson Cheyne, Arbuthnot Lane, Mr. Moynihan of Leeds, Sir William McEwen of Glasgow; Prof. von Eiselberg (Vienna), Prof. Kocher (Berne), Prof. Bastianelli (Rome), Prof. Lucas-Championiere (Paris), Prof. Ingianni (Genoa), and of our own country, Drs. Murphy, Crile, Cushing and Wm. Mayo. Upon these latter four was conferred the honorary degree of F. R. C. S., a rare and unusual honor, by the Royal College of Surgeons.

Advances in Intra-thoracic Surgery, was the theme of Prof. Sauerbruch's paper. He said in part:

"The factors which had been of most importance in the development of surgery of the chest were, in the main, three. First came the improvement of diagnosis by means of Roentgen rays; by this method changes in the lung substance, the formation of cavities, the presence of tumor, the stages of tubercular disease, could be demonstrated, and the alterations and improvements following treatment could be traced. Next he placed the experimental researches on pneumothorax. Pneumothorax meant the escape of air into the pleural space between the lung and the rigid thoracic wall, a condition which might give rise to collapse of the lung and one which had hitherto militated against progress. The last factor was the introduction of methods to determine the difference of pressure within the lung in relation to atmospheric pressure.

His own experience was that operations on lungs were best performed by the aid of special apparatus to establish a negative pressure, that was, that the operator and whole of the patient, except his head, were in a chamber whose pressure was less than the atmospheric pressure, so that collapse of lung did not occur when the pleural cavity was opened. The same object was attained in the reverse manner by making the patient breathe in a small chamber whose internal pressure was higher than atmospheric pressure; this was known as positive pressure By these methods exploratory opening of the chest cavity was as simple an operation as exploratory opening of the abdominal cavity, and tumors could be removed.

Bronchiectasis (chronic dilatation of a bronchus with accumulation of pus) was treated by opening into the lung cavity, and drainage. He had cut the phrenic, the nerve to the diaphragm, and performed artificial pneumothorax for the purpose of putting the affected lung at rest. In tubercular disease of lung he had performed Freund's operation of cutting the costal cartilages of some ribs to permit immobilization of the lung, and had also endeavored to bring about the same object by artificial pneumothorax, thereby causing collapse of the lung.

Sir William McEwen's contribution to the debate was by far the most interesting and informing of the day. He drew attention to two points. In the first place, he wished to demonstrate a patient operated on by him, 18 years ago, whose left lung had been removed in its entirety for tubercular disease. The patient had been brought from Glasgow and was seen by the section to be a strong, healty-looking man whose left side was hollow and fallen in. He was engaged steadily at work. At the time of the operation the right lung was diseased, but the removal of the hopelessly diseased lung was followed by improvement in the conditions of the remaining lung.

That experience had been found in other four similar cases. In all these cases the apex of the

diseased lung had been adherent to the great vein at the root of neck, and at a later stage in the last four cases the vein and that piece of lung were removed. In the first case the patient for some days suffered great distress from the "flopping' 'of his heart to and fro as his position was changed. This symptom was obviated by stitching the pericardium to the front part of the chest wall. Photographs of the five men operated on were shown, as also were photographs of the lungs removed.

The concensus of opinion was, that intra-tracheal administration of ether would supercede all other methods of anesthetizing in these thoracic cases becaues it coupled with the giving of ether the artificial respiration.

It may be interesting to the readers of the Journal to know that the following resolutions were sent up by the Sections of the Congress, and will be considered by the Executive Commission and reported on before the next meeting:

(A) That, sensible of the ravages wrought by syphilis in the health of the community, and deploring the inadequacy of existing facilities for checking its dissemination, the International Medical Congress calls upon the Governments of all the countries here represented—

(1) To institute a system of confidential notification of the disease to a sanitary authority, wherever such notification does not already obtain.

(2) To make systematic provision for the diagnosis and treatment of all cases of syphilis not otherwise provided for. (Submitted by the combined Sections of Dermatology and Syphilography and of Forensic Medicine).

(B) (*a*) That the section is of the opinion that beri-beri among natives who live practically on rice is brought about by the continuous and too exclusive use of rice submitted to a too complete milling, which removes the cortical and sub-cortical layers of the grain.

(*b*) The section urges all authorities charged with the health of native communities to restrain by every means in their power the use of this rice in the dietary of coolies.

(*c*) In view of the proved non-infectionsness of beri-beri the section suggests that all port and sanitary authorities should abolish foreign quarantine and other restrictive measures against this disease.

(*d*) The section resolves that the malady known hitherto under the name of Malta fever shall in future be named "undulant fever." (Submitted by the Section of Tropical Medicine and Hygiene).

(C) That this Congress records its conviction that experiments on living animals have proved of the utmost service to medicine in the past, and are indispensable to its future progress. That, accordingly, while strongly deprecating the infliction of unnecessary pain, it is of opinion alike in the interests of man and of animals that it is not desirable to restrict competent persons in the performance of such experiments.

On Monday, the 11th of August, the Sections of Surgery and Neuropathology met in joint session for the discussion of the subject of "The Treatment of Tumors of the Brain."

"Professor Harvey Cushing was greeted with great applause. He spoke strongly in favor of operative treatment as the only hope for tumors of the brain. He agreed that, if he interpreted the word 'recovery' with literal strictness, possibly not more than 5 per cent of the cases recovered. But if to these patients they were able to give relief from persistent headache and weakness, preservation of vision, prolongation of life, then he said they had 50 to 60 per cent 'recoveries.' Taking his last 100 consecutive cases he had only seven deaths attributable to the operation, and he held that with greater care and more knowledge the operative mortality would go down still more. He said further that these operations must be done slowly with thorough and complete haemostasis in every case. Some of his operations lasted four hours, and many operations are performed in three or four stages. All manipulations are done with the greatest possible delicacy and respect for the brain tissue. One operation was quite enough for a whole morning's work.

Sir Victor Horsley (who was received with applause as a pioneer in brain surgery) said that to improve their statistics and methods earlier and more accurate diagnosis was essential. The earlier the diagnosis the sooner would operation be performed. Even if the diagnosis were doubtful, that did not mean that operation should be postponed. The classical symptoms of brain tumor taught in the text-books on surgery were really late symptoms. They were present only long after the tumor by its size had caused intracranial pressure. Optic neuritis was not to be waited for till it affected both sides; it was a most valuable sign, because it often appeared first on the side affected. He thought that physicians should watch carefully any case whose symptoms, (headache, slight dimness of vision, slight local paralysis, one-sided pupillary differences) were progressively becoming worse The doctors should very early send such cases to the surgeons if there was to be any progress at all.

Sir William McEwen recalled how he had first operated on brain tumors 40 years ago. With all his experience he dwelt most on the early diagnosis and localization of the tumor. The physiologists must endeavor to elucidate some of the difficult problems of localization on which the well-known signs of word-blindness, word-deafness, mind-blindness depended. He had operated and found brain tumors even though the so-called classical symptoms were not present. In the motor area localization was

established, but tumors grew in other parts of the brain which had to be localized in other ways so far not established except in occasional instances. He advocated removal of tubercular tumors, many of which grew in the deeper parts of the brain as well as on the surface."

To take up the wonderful work of the various sections in detail in a letter of this sort, to give abstracts of the papers on cancer, tuberculosis, forensic medicine, history; the important contributions in the Section on Psychiatry, the epochal reports on the treatment of heart disease, would not only be an impossible task, but would fill valuable pages of our State Journal for the next few years. The writer has only attempted to take his medical friends in West Virginia up to the rear seats of a vast arena, there to see and to know something of the great pleasure, benefit, and inspiration that have come in meeting face to face and hearing the masters of our Art.

London, August 20th, 1913.

THE SHOCKING RETORT.

We know a fine type of young practitioner who does a general practice. He has a unique way of receiving proposals from certain cultured married females among his clientele.

Mrs. Brooke-Jones trips gracefully into the Doctors' consulting room, lowers her eyes, blushes just a wee trifle and observes: "Well. Doctor, here I am again. It's humiliating. I can't let it go on. Why, Gerald is only fourteen months old and Burton is not three yet!"

"Is it possible?" murmurs the doctor sympathetically, patting her hand like an old school gentleman.

"Yes," continues the distressed matron, her eyes filling with tears, "I told Henry I simply couldn't go through it again. My friends are commiserating me as it is, and another so soon would be scandalous!"

"There, there," purrs the young doctor. "And what can I do for you, Mrs. Brooke-Jones?"

"Give me something or other to bring on my period."

"What! You ask me to destroy life?"

"Oh, pshaw, I've only skipped two periods. Surely——"

"Wait, Mrs. Brook-Jones, pardon me. It would be a great risk—for you, I mean. You might suffer blood-poisoning and death from such interference. But I think I can assist you —you're perfectly well in every way, are you not?"

"Yes, indeed—everything but—"

"And your only reason for wishing this abortion is that you don't want more than two children?"

"Yes, I think two are enough."

"Very well, Mrs. Brook-Jones," suggests the doctor calmly. "As I said, I don't like to risk two lives—your unborn child's and your own—but I don't mind committing one murder for friendship's sake, you understand—do you?"

"I understand," smiles the eager visitor, "—only you needn't be so terribly serious about it. All the women I know—"

The doctor breaks in. "Now, I'll tell you what I'll do. Just let Nature alone and keep your good health. But bring me either of the other children—I dont' care which—and I'll butcher him for you. That will save risking your own life and—"

Mrs. Brook-Jones rises indignantly and marches out. A few months later, as a rule, the doctor ushers the bone of contention into a happy home.

Mother-love is an animal instinct.—*St. Louis Medical Review.*

SOME DISEASES WHICH PRECEDE INEBRIETY AND ALCOHOLISM. T. D. CROTHERS, M.D., *Superintendent Walnut Lodge Hosp.*, Hartford, Conn. In *Med. Brief*, April, 1911.

We hear much said concerning alcoholism as a cause of disease but seldom hear anything said about the diseases which may be causes of alcoholism. In this paper, Crothers shows how craving for liquor may result from pathological changes due to infectious diseases, exhaustion of nervous system, developments, degeneration and traumatism both physical and mental. It is thought that 20 per cent of all drink and drug neurotics are sufferers from some other disease. A large number have had an infectious disease or have received some severe injury. Others show hereditary degeneration. An experience of many years covering several thousand cases proves that in more than half of the alcoholics the cause can be tracted to previous derangements.

The lesson one may derive from the facts in this paper, although not referred to by the writer, is the almost imperative necessity of prohibiting the use of alcoholic beverages, if we are to prevent untimely deaths and prolong the average of human life. In other words the essence of the subject is: Certain diseases and injuries, generally avoidable, produce alcoholism, which in turn produces the disease which removes the victim prematurely. The individual, had alcohol not been available, would have completed a period of existence greater than the average. Society is culpable for the early death of the individual in two ways. First, infectious diseases and many accidents could be avoided in the community, and second, alcoholism and other drug neuroses could be prevented or much curtailed by legislative enactments. The cause becomes an effect which proves to be a cause of a greater effect and both are largely preventable.

G. D. L.

The West Virginia Medical Journal

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WHEELING W. VA., OCTEBER, 1913

THE JOURNAL is issued on the first of each month.

Subscription,	$1.00	per year
Single Copies,	15	cents

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Editorial

If you are going to take post-graduate work in New York soon, we can save you a little money.

NOTICE.—The State Board of Health some time ago resolved that it would not admit to examination for licensure any graduate of a medical school that is graded below B by the Council on Medical Education of the American Medical Association. In an examination of gradates of Class C colleges in another state, 80% failed to pass. We advise all students to note the action of our State Board, and avoid Class C schools.

BABIES III.

In an endeavor to lessen the appalling total of infant mortality, it is plain that our efforts to be successful must depend chiefly on our ability to stay the ravages caused by the four great groups of diseases mentioned in the preceding issue of the JOURNAL, viz., General Diseases: Diseases of the Nervous system; Diseases of the Respiratory system; Diseases of the Digestive system. Certain conditions that have relations common to all of these are first to be considered. These come under the head of general sanitation, and for the most part are properly classed among those duties which society in its organized capacity ought to and in some measure does assume to perform. For this purpose, health legislation has been enacted and health officers and health regulations have been established in nearly all of our states and municipalities. So far so good. It took a great deal of missionary work, carried on for a long time, to educate legislative bodies and the general public to which these bodies looked for authority to proceed on these lines, to the point where either the feasibility or efficiency of such legislation was recognized. Those whose memories go back a generation or more, recall how difficult it was to procure the first imperfect and clumsy enactments looking to the assumption by the public, through public instrumentalities, of this duty of looking after this most important concern of the public welfare. The whole matter had always been left to private initiative and effort, with no authority lodged anywhere to institute or carry on any plan or method. Luckily this has been changed. The ice at last is broken. The idea has taken hold and has been developed wonderfully. The public, not yet sufficiently enlightened in most phases of the subject, comprehends, nevertheless, its importance sufficiently, not only to be eager to know more, but to put into service the knowledge it has. On this account then, it is well to set forth such facts and suggestions as can be depended on to be of use in the cause, in order that they may be marshalled and blended into a workable system. Hence these observations. When we study the conditions under which the ravages of these four groups of diseases are greatest, we see how much depends on the conditions of living. Over-crowding; bad or insufficient food; stuffy, dark, ill-ventilated habitations, cold in winter, hot in summer; improper or insufficient clothing, together with ineptness in utilizing what can be had; ignorance as to the proper way to prepare food; lack of fuel and cooking facilities;

uncleanliness of person; these are the conditions in the midst of which multitudes of urban babies are ushered into the world and their battle for life begun. Add to these the concomitant of anaemic mothers, worn down by incessant demands upon over-taxed strength, always tired, often intemperate, and what chance is there for the little things, anyway. As was said more than twenty centuries ago, "the destruction of the poor is their poverty." How true it is. Then when actual sickness seizes hold on these frail mortals, to their depressing conditions must be added lack of care and good nursing, of isolation of the sick from the well, of necessary medical attention, of disinfection, of almost everything in fact that would help them in their struggle except that persistent, unflagging, dogged power of resistance that they inherit from Mother Nature, which sustains a certain proportion of them through their first two perilous years in spite of all. It is in permitting the existence of these conditions that our civilization fails to measuse up to its obligations. It should never have permitted slums to exist. It should have forbidden ignorance and poverty the privilege of living, or existing rather, under such conditions. Ignorance and poverty could not help it, but civilization could—and didn't. Here the vast human problem looms up before us. How much there is to do before it is solved! How many generations must yet wrestle with it! Now if we wish our babies to live—and we do—we must address ourselves to these fundamentals. Abolish what we can, ameloriate what we can, neutralize what we can, put up with what we cannot help. Instruction in the everyday household management, in the selection and preparation of food, in the need of fresh air and sunlight, in the choosing and fabrication of clothing, should and can be made to reach every home where it is needed. Very powerful and efficient agencies to carry through this work we have in the various women's civic clubs, social centers, settlement workers, district and visiting nurses, and last but not least the doctors. To supplement these, we have the local and State health boards, the various charitable associations and the large-hearted rich. The rich scarcely realize how dependent they are upon the poor. They are beholden to them for so much, and the obligation should not rest unsatisfied. We have thus summed up some of the elements of the problem that confronts, and thus far has baffled the energies put forth to solve it. As before stated, these observations apply to all four of the groups selected for consideration, but more especially to the group of General Diseases. The other three groups have some special features bearing on their incidence and prophylaxis that should be considered before a final summing up. This we shall defer to another occasion. L. D. W.

PHYSICIANS, ATTENTION.

Since his appointment as Secretary of the State Board of Health, the writer has learned the following facts: 1. There are in the State physicians without license who are practicing under the protection of licensed practitioners, and the opinion seems to prevail that this may be legally done. 2. There are Prosecuting Attorneys in the State who decline to prosecute unlicensed practitioners for one reason or another. In order to clarify the atmosphere somewhat and give to both physicians and prosecutors correct information, we some days days ago addressed the following questions to the Attorney-General of the State:

First—Has an unlicensed physician any legal right to practice medicine under the protection of a licensed practitioner, whether in the office of or located at a distance from the latter?

Second—Has the Board any recourse when a prosecuting attorney declines to prosecute an unlicensed practitioner, even when abundant evidence as to the violation of the law by the latter is presented?

Judge J. B. Morrison of the Attorney-General's office has very kindly replied to these questions and we here give the substance of his opinion.

After citing the law touching the different points involved he says:

"I am, therefore, of the opinion that an unlicensed physician has no legal right to practice medicine and surgery under the protection of a regularly licensed practitioner, either in the same office with him or at any other place."

Replying to the second question the learned Judge, after citing the law govern-

ing the duties of prosecuting attorneys, expresses the following opinion:

"If the prosecuting attorney declines to prosecute an unlicensed practitioner when his attention is called to the same by the State Board of Health, that the State Board could report that fact to the Circuit Court of his county, and proceeding could be instituted under the above provision of the last-named section and remove him from office."

The Section of the law here referred to by Judge Morrison is as follows:

"If any prosecuting attorney shall compromise or suppress any indictment or presentment without the consent of the Court entered of record, he shall be deemed guilty of malfeasance in office, and may be removed therefrom in the mode prescribed by law."

Local physicians are apt to think that the prosecution of illegal practitioners is entirely in control of the State Board of Health. The fact is that the State Board can do but little in such cases, and that the proper method of procedure is for the local physicians to collect what evidence may be needed and place this in the hands of the prosecuting attorney of the county insisting upon him performing his sworn duty. The State has many illegal practitioners of many sorts, and it is time that concerted action should be taken to rid the State of this class of practitioners. This can only be done by the active efforts of physicians in the counties in which such men are violating the law. The State Board of Health will be glad to lend its aid in any way possible. S. L. J.

HOW DOCTORS DIFFER.

In our capacity of Secretary of the Board of Health we have recently learned of two types of practitioners. An intelligent layman writes: "Three of my children are down with typhoid fever and we have four more in the family to get it. When I suggest preventive vaccination to my doctor, he refuses to listen to me." This doctor does not belong to the medical progressive party. Of another kind is the young physician whom we recently met when investigating an outbreak of typhoid fever in a village of 200 people in which 13 cases occurred. This physician was using the preventive injections, and he did not wait for advice from parents before using this most valuable prophylactic. Every physician should read and digest the following, and then hold himself in readiness to make use of this remarkable discovery as occasion demands it.

In a recent issue of *The Journal of the American Medical Association,* Major Frederick F. Russell of the Medical Corps summarizes the results secured through vaccination. In 1902, with an enlisted strength of 80,778 men and officers, there were in our regular army 565 cases of typhoid. In 1909, out of 84,077 men there were 282 cases. In March, 1909, vaccination was begun, but the number vaccinated that year, 830, was too small to affect the ratio. In 1910 over sixteen thousand were vaccinated, and at once the number of typhoid cases began to diminish. In 1911 there were only 79 cases. In the same year vaccination for typhoid was made compulsory on all persons in the military service and on all recruits. In 1912, the first year in which the entire army was immunized, there were only 27 cases, the last one occurring Dec. 19, 1912. Since that date, now nine months ago, there has not been a single case of typhoid in the army.

Major Russell also reports that during the past four years over 200,000 persons have been vaccinated without a single death or injurious result. Such an experience on so large a scale certainly justifies his conclusion that by the general use of vaccination typhoid fever will soon become a negligible factor in our public health problems.—S. L. J.

Surgeon Taliaferro Clark of the United States Public Health Service is investigating contagious and infectious diseases, with special reference to trachoma in the mining and mountain sections of the State. The State Board of Health has invited this investigation and we desire to ask that all local physicians in places visited by Dr. Clark will render him every possible assistance in his work. Dr. Clark has made similar investigations in other States and the results have been issued in Bulletins from the office of the Surgeon General of the Public Health Service,

VACCINATION vs. SMALLPOX.

Dr. Buxton, in *Providence Medical Journal,* has this to say of it:

If the profession were only consulting their own interest they would stop vaccination, and that would prove a grim joke and the laugh would not be on the doctor, for there would be a rich harvest in large fees for attendance on cases of smallpox, and in place of that occasional filthy dollar, now paid, there would be shoveled out upon the medical world such golden fruit

as would come down in showers of double eagles. But are we not taken at our own estimate; that which costs, is esteemed most: the public have been served too cheaply; put up the price of vaccination; dignify it as an operation, let it be done with cap and gown, preceded by a scrub, and the fee, let it be ten dollars. The old women might continue their scab and needle scratching at fifty cents "per."

The public have been very eager and ready to criticise and abuse both the profession and the practice of vaccination and our attitude of silent contempt, of dignified silence, of scorn to reply to these base accusations does not seem to serve, does not squelch these kickers; the wave of opposition reaches higher and higher, the tide of public doubt seems on the flow, and the doctor's position misunderstood; our failure to reply and defend is interpreted to mean doubt and fear on our part.

How then shall the people be made to understand that vaccination is not to benefit the doctors, but, on the other hand, is done for the good and in the interest of the public? Well then we would suggest, first, that the profession lift vaccination to the dignity of an operation, then stop advocating compulsory vaccination; let it be optional; have the State pay for it and do it through salaried officers; let vaccination be free.

(There has been considerable smallpox in the State during the present year and special efforts at vaccination are being made in several cities. Word reaches us that a member of the State Board of Health is interfering with the efforts of local health officials in their good work of pushing vaccination. No physician who puts himself in such a position is worthy of a place on the Board, and if the report is proven to be correct we miss our guess if a vacancy is not soon created.—EDITOR).

The territory of the Barbour-Randolph-Tucker Medical Society seems to be suffering from an epidemic of malpractice persecutions. Our accounts of two cases of malpractice suits against two of our members in Tucker county are probably still fresh in the minds of our readers. Word comes now that a case has just been compromised in Barbour county and that a case is about to be tried in Randolph county, and that in the latter county there are two or three cases about to be entered. The charges in the cases that have been tried were proven to be without foundation, and we are confident that the same is true of all the other cases. In every one of these cases jealousy and malice on the part of an unworthy member of the profession is understood to be at the bottom of it; and in some of these cases the guilt is based upon evidence amounting to more than a mere moral certainty. Inasmuch as the State, as well as the innocent defendant, is made to suffer much loss in conducting the trial of these baseless cases, we believe it is the duty of every right-thinking man to expose the instigators and inflict upon them the scorn of righteous indignation. It especially behoves the officers of our Association and the local societies to get busy and ferret out these culprits and free the Association from them.

It may be of interest to mention for the present that the compromised case refered to was a suit for damages for failure to repair a lacerated perineum. But we may have more to say about this and the other cases in the near future.

A CORRECTION.

An error occurred in Dr. Goff's excellent paper on Blood Pressure in our September issue The author desires this corrected. The paragraph beginning at the bottom of page 78 should read as follows:

"I think we have now shown that increased force of ventricular contraction, together with increased peripheral resistance, increases arterial tension; and that decreased force of ventricular contraction, together with decreased peripheral resistance, decreases or lowers arterial tension; but the extent to which these elements raise or lower blood-pressure depends largely upon the elasticity of the vessels into which the ventricle is forcing the blood and from which the blood is flowing through the capillaries into the veins."

Note from the State Association Secretary.

DAVIS, W. VA., Sept. 18, 1913.

All members who expect to prepare papers for next annual meeting are *most earnestly* requested to notify me at once. It may be that you do not know just what subject you will write on. Let not this deter you; write me that you wish to appear on the program and the subject can be determined later. Men whose names have not appeared on the program during the last year or so are especially urged to take part next year. The date of the meeting is early, May, so it is high time that we were making a start. If as many as 75% of papers are briefly abstracted by their authors and these abstracts are sent to the Secretary they will appear on the program. In this way intelligent discussion will be facilitated. This year's membership will be the largest in our history. Let us make the annual meeting a memorable one. Members are urged not to invite physicians out of the State to prepare papers without first consulting the President or Secretary. A. P BUTT, *Sec'y*.

State News

FAIRMONT, W. VA., Sept. 26 1913.

Editor West Virginia State Medical Journal:

In response to many inquiries as to the relative proportion of the cases of fracture treated at Miner's Hospital No. 3, the following table is submitted:

	Simple	Comminuted	Compound	Compound comminuted	Total	Per cent
Clavicle	56	0	1	0	57	5.28
Femur	134	2	15	15	166	15.37
Fibula	13	1	1	0	15	1.39
Frontal and nasal	0	0	1	0	1	0.09
Humerus	24	7	8	5	44	4.07
Ilium	19	0	6	2	27	2.50
Ischium	7	0	0	2	9	0.74
Malar	2	0	0	2	4	0.37
Maxillary Inferior	19	0	0	6	25	2.30
Maxillary Superior	1	0	3	2	6	0.55
Metacarpal	0	0	1	1	2	0.18
Metatarsal	13	0	2	1	16	1.48
Nasal	0	0	1	1	2	0.18
Patella	9	0	0	2	11	1.02
Radius	1	0	0	1	2	0.18
Radius and Ulna	37	4	14	12	67	6.20
Ribs	54	0	0	0	54	5.00
Ribs penetrating lungs	0	0	41	0	41	3.80
Sacrum	2	0	0	0	2	0.18
Scapula	9	2	0	0	11	1.02
Skull	15	0	27	18	60	5.55
Sternum	8	0	0	0	8	0.74
Symphysis pubis	7	0	0	0	7	0.65
Tarsal	0	0	0	1	1	0.09
Tibia	3	0	0	0	3	0.27
Tibia and fibula	204	21	49	162	436	40.40
Vertebra, spinous process	2	0	0	1	3	0.27
Totals	639	37	170	234	1080	
Per cent	59.17	3.43	15.83	21.57		100.00

Yours very truly,

J. W. McDONALD, M.D.

STATE BOARD OF HEALTH EXAMINATIONS.

At the examination in Charleston July 14-16, the State Board of Health examined 45 physicians for license to practice. The following were successful: Ray M. Bobbitt, Hinton; E. T. Goff, Smithville; J. F. Easton, Clear Creek; W. T. Smith, Spercer; Guy Stalnaker, Eden; James T. Ferrell, Ripley; Erin B. Lynch, Buckhannon; Grover C. Morrison, Liverpool; Esten L. Hazlett, Pittsburg, Pa.; T. A. Moncure, Anawalt; Laurence A. Petty, Charleston; Mark D. Good, Paden City; Robert P. Woods, Falling Springs; Hugh Dunn, Sutton; Kenna Jackson, Sutton; Edwards M. Riley, Anderson, S. C.; Caperton A. Farren, Smoot; James W. Livesay, Leivasy; William E. Myles, Maywood; Charles L. Mowrer, Baltimore, Md.; Martin L. Sowers, Pocahontas, Va.; Noah E. Steele, Logan; John F. May, Ethel; Charles M. Clark, Yukon; G. C. Shuler, Winchester, Va.; Ira M. Fisher, Charleston; Joseph E. Brown, Rahway, N. J.; Curtiss T. Hayden, Floyd, Va.; Thomas L. Cooper, Pittsburg, Pa., (Regular); Mrs. Anna G. Roberts, Wellsburg, (Homeopath); Louise F. Richmond, Silver Hill; H. O. Van Tromp, French Creek, (Eclectic); Addington C. Tedford, Plainview, Minn.; Harry S. Whitacre, Whitacre, Va.; Isaac M. Austin, Morgantown, (Osteopaths).

There were ten applicants who failed to receive the 80 per cent required by the Board. Of these three were from the University of Louisville, two from Maryland Med. College, two from Leonard Med. College, and one each from the Eclectic Medical of Cincinnati, Meharry Medical, and Illinois Medical College.

Dr. Yeakley of the G. H. H. M. Medical Society is to be commended for his enterprise in stirring up members to a sense of their duty in attending meetings. He recently sent out the following letter to the members, and we commend the example to other Secretaries.

"The next meeting of our Society will be held in Piedmont on Oct. 16th, with two sessions—morning and afternoon. At the morning session, 11 o'clock, will be held a short business meeting, at which time the affairs of the Society will be discussed; and a general discussion of business affairs as they relate to our profession will be a part of that session's program. The Constitution governing the Society provides that at least a part of one meeting a year shall be given to the discussion of such subjects. The election of officers for the ensuing year will close the morning session; and after dinner a program composed of a symposium on diseases of the lungs. We are promised some good papers, dealing with pathological conditions of this organ generally.

Allow me to suggest that you spend some time between now and the day of the meeting in studying the lungs. This will insure us a lively discussion, and add very much to the interest of the meeting.

"We now have one of the best societies in the State; and if we can have an attendance next month like we had in Moorefield, in July, our percentage attendance will rank with the first of the societies making up the State Association."

* * *

Dr. E. R. McIntosh has recently been in New York doing post-graduate work at the Post-Graduate Medical School.

* * *

Dr. T. H. Elliott of Gauley Bridge, recently spent some weeks in New York taking post-graduate work at the Polyclinic Hospital. Had he written to us before going we could have saved him a few dollars.

* * *

A recent card was received from Dr. J. E Burns in Italy. He with Dr. Hupp and family are expected home in a few days.

* * *

At a recent meeting of the Pennsylvania R R. Co. surgeons, held in Atlantic City, Dr. H. P. Linsz of Wheeling was elected Preisdent for the second time. Congratulations to our fellow member are in order.

* * *

Dr. John J. Goodwell has recently removed from Bluefield to Shamokin, Pa.

Dr. T. W. Moore of Huntington, was recently struck by an automobile and quite severely bruised. Fortunately no bones were broken.

* * *

The following additional members of the medical staff of The Ohio Valley General Hospital have been appointed since our last issue: Genito-urinary surgeon, H. S. West; Physicians, H. P. Linsz and D. B. Best; Surgeons, J. R. Caldwell and G. L. Vieweg; Obstetricians, E. L. Armbrecht and J. O. Howells.

Society Proceedings

CABELL COUNTY SOCIETY.

Editor W. Va. Medical Journal:

The regular monthly meeting of this Society was held the evening of Sept. 11th. The evening was taken up with reports of cases, and a discussion of what to do regarding the advertising quacks of this vicinity. The following resolutions were passed, and I was directed to ask that Ohio County Society and the other societies of the State take similar action:

Resolved, That in the opinion of the members of this Society, the bill known as H. R. Bill No. 28277, which was introduced Jan. 20th, by Mr. Harrison as a substitute for H R. Bill No. 28023, and which has been passed by the House and is now before the United States Senate, is unfair to the members of the medical profession.

Further, That to carry out the provisions of this law would hamper physicians in their duties in treating the sick and alleviating pain.

Further, That it is our firm belief that physicians are conscientious in the use of all drugs for combating the ills of humanity, and

Further, That the existing laws of the various states make ample provisions for dealing with those unprincipled persons masquerading under the cloak of practicing physicians but whose real business is the vending of habit-forming drugs.

Resolved, That the members of this Society respectfully request that the Senators from West Virginia carefully examine the various features of this bill and exert their strongest efforts to prevent this bill, in its present form, from passing the Senate and becoming a law.

JAS. R. BLOSS, *Sec'y.*

TYLER COUNTY SOCIETY.

FRIENDLY, W. VA., Sept. 2, 1913.

Tyler County Medical Society held its last meeting in the County Hospital, August 29th, and was called to order by the President, Dr. Ralph Boice. The meeting was well attended and a number of important topics were discussed. The election of officers resulted in the choice of Dr. M. M. Reppard for President, and Dr. John Bennett, Sec'y-Treas. It was resolved to extend to Dr. S. L. Jepson of Wheeling, Secretary State Board of Health and Dr. W. S. Link, Parkersburg, Councillor for the Fourth District, invitations to attend the next meeting of the Society which is to be held at Paden City on Monday, Sept. 29th. There being no further business the Society adjourned.

OHIO COUNTY SOCIETY.

WHEELING, W. VA., January 27, 1913.

The society met, with 29 members present, President Schwinn presiding. Dr. Schwinn gave a lecture on "Infections of the Knee Joint," with stereopticon illustrations of the joint. First he described the anatomy, urged a careful examination of the joint in comparison with its fellow. Impressed the importance of careful history taking in these cases. It is important to determine whether the pain complained of in the knee was due to disease in the joint itself or whether it was referred from some other part of the body. During the examination the patient should be stripped and the position of the thigh carefully noted. Also note by palpation whether the psoas be contracted or not; fluctuation may be demonstrated if present, which always means effusion. Pain or pressure and crepitation in the joint may be demonstrated. The different kinds of effusion were spoken of and were described. The doctor spoke of the functional tests of the joint and the importance of noticing stiffness and gait in walking. X-ray examination is most important and the tuberculin and Wassermann tests are very helpful in differential diagnosis. He then discussed acute joint affections, as synovitis, articular rheumatism, gonorrheal arthritis and the true pyogenic infections, giving the differential diagnosis and the prognosis of each.

Of the chronic diseases of the knee the doctor said that tubercular infections were most important. He gave the symptoms, pathology and treatment He advised the burring of opposing surfaces of bone and the formation of bony union between them. He then discussed syphilis of the joint and arthritis deformans. He regarded the causation of the latter either traumatism of the joint, chronic purulent infection or auto-intoxication. Finally he discussed the differential diagnosis between tabes, arthritis deformans and the joints of a bleeder.

Dr. Hupp opened the discussion by saying the prognosis in tubercular joints is often too favorable. Reported successful use of the Bier treatment. Subject was further discussed by Doctors Covert, McMillan and Noome.

Dr. Quimby spoke upon the use of stereoscopy in X-ray work and showed diagramatically the use of the stereoscope. He also exhibited some very excellent plates, showing the great value of this method in the interpretation of X-ray plates.

J. E. BURNS, *Secy.*

LITTLE KANAWHA AND OHIO VALLEY SOCIETY.

PARKERSBURG, W. VA., Sept, 5, 1913.

Editor W. Va. Medical Journal:

The regular meeting of the L. K. & O. V. Medical Society was held Sept. 4 at the Chancellor Hotel.

Being our first meeting after our summer vacation it was preceded by a dinner; we had 20 members present. We had as our guest Hon. Allen Murdoch, mayor of our city.

After the dinner Mr. Murdoch was introduced to the Society by Dr. Sharp and the mayor then addressed us upon the especial need felt by the authorities of getting into closer touch with the medical profession, and of their closer co-operation in perfecting the health organization of the city; of the needs of the City Hospital and its service to the people, as a training school for high grade nurses. After some discussion and an assurance of hearty assistance from the profession, we took up our regular program.

Dr. H. M. Campbell read a carefully prepared paper on Diabetes Mellitus, which covered the subject in a satisfactory manner. After discussion by many members, came the report of cases.

Dr. Wise reported a case of poisoning by a woman with suicidal intent, taking 2 or 3 oz. of lysol. He directed treatment by telephone and reached the patient in half an hour, 6 miles from city. The patient was unconscious with a weak thready pulse. She had been vomited as directed. Mouth and lips showed local effect of the lysol.

He succeeded in passing the tube into stomach and washed out the stomach with a large quantity of water, afterwards introducing some dilute alcohol. Also passed in a solution of magnesia sulph. and gave a large enema of same, afterwards bowels moved freely. The patient afterwards gradually recovered from the effects of the lysol. Owing to the unusual nature of the poisoning, Dr. Sharp had collated some notes on lysol, its history and other facts relating to it..

Lysol originated in Germany from the efforts to utilize the higher and more efficient phenols by increasing their solubility with water. These phenols, cresols, etc., are derived from coal tar and coal oil distillation. A simple solvent was found to be soap. At first the German government refused a patent, as it was to be used in manufacture of soap; later a patent was granted to Damann on this product, which he called lysol. This patent has now expired and this article has been adopted into several pharmacopeias under the title of "liq. cresolis compositus." Lehn and Fink still market it under its name lysol, the more common name used. Their bottles bear the poison label, also specify the antidotes, as follows: give copious quantities of olive oil, melted butter or lard, or whites of eggs. He found one case of fatal poisoning by it in one of the abstract of titles and papers in *Jour. of A. M. A.*, but no particulars given.

It is virtually a poisoning by phenol, cresol only being less active than these poisons. He cited symptoms following overdose of phenol, which are the same as shown by Dr. Wise's case. The treatment is about the same.

Phenol has produced death in a few minutes, viz., 2 to 5 minutes, average time being 2 hours. He called attention to case treated by Dr. Reese of Bisbee; see August number of *W. Va. Journal*, by the hypodermic use of atropia, and the claim made that it is the physiological antidote.

Several members called attention to the careless, dangerous and pernicious manner by which the public can obtain the deadly bichloride of mercury tablets, under the name of antiseptic tablets. That they have become a favorite means by using them in douches to prevent conception, on advice of parties who have used them for this purpose. A committee was appointed to investigate the State laws regulating the sale of poisons, especially mercuric chloride, to report at next meeting.

Drs. Campbell and Gaston reported a fatal case of child birth in a woman 8 months pregnana. Cause of death, hemorrhage from a partial detachment of the placenta, which occurred before labor pains set in. The presentation was podalic, the fetus dead, no hemorrhage after delivery of child. Mother died several hours after delivery from loss of blood in spite of all efforts to sustain her. Supposed cause, riding over a rough road for some distance.

Dr. Murford of Grantsville, Calhoun county, and Dr. Adams of this city were admitted to membership. From out of the city, Drs. Douglass of Ritchie county and Dr. Dotson of Spencer were present.

President Link reported that at present there were 50 members. Society adjourned.

W. H. SHARP, *Treas.*

Medical Outlook

THE PUBLIC HEALTH AND TUBERCULOSIS.—H. W. HILL, M.B., M.D.,D.P.H. London, Ontario, Can—*Jour. Lancet, Minneapolis, Minn.* Tuberculosis is a typical infectious disease and must be handled as any infectious disease. Main thing is to find sources of infection. Five great routes—water, food, flies, milk and contact. Human tuberculosis chiefly by contact, through sputum, mouth spray and hands, directly or almost from patient to patient. Practically same as diphtheria and scarlet fever.

"Serious enough as cattle tuberculosis to the human is, its prevalence, nevertheless, is as much less than that of human tuberculosis and its infectiveness in the human is so nearly negligible, if our efforts were concentrated wholly on human tuberculosis more cases and more deaths would be prevented in a year's work, than efforts on bovine tuberculosis, however successful could possibly achieve in many years." G. D. L.

180 CASES OF SYPHILIS TREATED WITH SALVARSAN.—GEO. W. BOWMAN, M D, Indianapolis, *Indianapolis Med. Jour.*, Dec. 1912.

Dr. Bowman concludes: "(1) That an intravenous injection given early is preferable, because of its sweeping action and because of the fewer complications arising from such injection, that same should be followed by other injections; (2) that the Wassermann reaction should be constantly employed in individual cases as the most reliable method of diagnosis in doubtful cases, and in the control of subsequent treat[illegible] in all cases; (3) that the primary and [illegible] cases yield best to salvarsan, alt[illegible] great value in all stages of syp[illegible]

most potent argument for salvarsan is the prevention of dissemination from the active lesions to the family and community and the lessening of the virulence of the injection to the patient; (5) that the danger to the eyes and ears in either single or oft repeated full doses has been greatly overestimated; (6) that we have in salvarsan a powerful ally in the treatment of syphilis by the old methods of mercury and potassium iodide. Finally it may be stated that while over 600 doses have been given in this clinic and several thousand injections at homes, hospitals and offices in Indianapolis, there has not been reported a single accident of any kind, which should deter any physician from using salvarsan in properly selected cases."

G. D. L.

LITHOPODION IN ABDOMEN 32 YEARS.

DR. J. W. DILLARD, Surgeon to St. Andrews Hospital, Lynchburg, Va., reports a case, Mary Jones, mulatto, aged 50, no known pregnancy, was found with enlarged abdomen from a tumor, and also had anasarca and ascites. An operation was done. "On opening the abdominal cavity a dense hard mass was found filling the whole abdomen. There were very few adhensions, and the tumor was rather easily removed. To the left of the tumor a small uterus was found with the left ovary, both in an atrophied condition. There were no other conditions connected with the operation that warrant special mention. The woman made a good recovery, and left the hospital at the end of three weeks.

The tumor upon examination was the shape and appearance of a large baby at full term, except there was lacking head and extremities, though rudimentary arms and legs could be seen. To examine this strange growth more carefully it was sawn longitudinally through, dividing it in lateral halves. It was dense and hard as bone; not only the outer portions but the petrification had extended entirely through. This Lithopedion weighed something more than eleven pounds.

This case was evidently an abdominal ectopic gestation, the impregnated ovum falling from the fimbriæ into the abdomen and there attaching itself. The placenta must slowly have been absorbed, as nothing could be recognized which might have been the remains of that organ; except in so far as the umbilical cord was concerned: that was ossified for about three inches from the umbilicus.

The history of this woman as told by herself and family goes to show that thirty-two years ago she missed her period, which was absent several months, and then began to re-occur at irregular times for five or six months, then disappeared. During all this time she was growing large, and attracted the attention of her friends who constantly advised her to see a doctor, which she refused to do. At about what they took to be about the 9th month of gestation she became very sick, suffered pain for quite a long time, but would not have a doctor called. The pains gradually wore off and she returned to her work, and has been able during all this long time to attend to most of the duties of housekeeping.—*Charlotte Med. Journal Mch.*

SALVARSAN FATALITIES.—We quote from Wechselmann's study of this subject in *The Urologic and Cutaneous Review.*

After all this we are justified in saying that salvarsan *per se* employed in normal persons in the customary dosage is nontoxic. Any evil consequence observed is always due to some organic insufficiency, especially of the kidneys. For this insufficiency the responsible factors are frequently mercury, perhaps exceptionally rarely salvarsan, and also other weakening factors, such as the influence of syphilis on the blood vessels as well as other infections and intoxications. If the most effective results are to be secured from salvarsan it is of the greatest importance to carefully heed the foregoing points during the drug's administration. * * * * * * * *

In view of the eminently practical lessons taught by the fatal cases, and in spite of obvious defects, I consider it my duty to offer these observations in order to impress upon those using salvarsan the need for greater precaution.

These precautions are:

1. The most exact technique.

2. A dose of the drug carefully adapted to the individual case.

3. Careful observations of the urinary secretion when employing salvarsan; resorting to the most exact chemical and microscopical examination of the urine. *This holds good particularly when the combined treatment is employed.*

4. The conjoint use of salvarsan with heavy mercurial treatment is dangerous! If one will use the combined treatment, then give mercury very carefully many days after the last salvarsan injection, but never reverse this rule!

5. Take into careful consideration every general reaction or rise of temperature, following the use of salvarsan, and make a full investigation of the causes of such effect.

Only by close obedience to the above will it be possible to begin the more refined, scientific investigation of apparently so simple, but in reality highly complicated, an occurrence as a salvarsan fatality.

VALUE OF LARGE DOSES IN CRITICAL CASES.—Many a "doomed" case of pulmonary edema, from heart disease, acute pneumonia, or nephritis gives the lie to a fatal prognosis, if you know how to utilize powerful and repeated sub-cutaneous doses of the double salt of caffein, or a few big doses (10 to 15 minims) of a good fluid extract of digitalis, or strophanthin intravenously with or without good hypodermic doses of camphor in sweet almond oil, or big doses of musk or sufficient doses of a nitrite. Only those of us who do not know what medicines can do, deny their efficacy.—JACOBI.

The West Virginia Medical Journal

Published Monthly
by
The W. Va. State Medical Association

Under the Direction
of the
Committee on Publication.

COMMITTEE ON PUBLICATION:
S. L. JEPSON, Chairman.
L. D. WILSON. G. D. LIND. C. A. WINGERTER.
Entered as second-class matter August 10, 1906, at the Post Office at Wheeling, W. Va.

Vol. 8—No. 5. WHEELING, W. VA., NOVEMBER, 1913 Subscription Price $1.00 per Year Single Copies 15 Cents.

Original Articles.

SOME CONSIDERATIONS IN PATHOLOGY, DIAGNOSIS AND TREATMENT OF MALIGNANT TUMORS OF THE BREAST.

John B. Deaver, M.D., Philadelphia.

(Read before the West Virginia State Medical Association, Charleston, W. Va., May 23, 1913)

The gravity of the problem presented by malignant growths escapes the limitations of language. Figures cannot give an adequate conception of the economic loss to the world through the ravages of this, the most important disease which confronts mankind, and the mind cannot conceive of the boundless measure of pain and suffering that attends its presence. An omnipresent disease that attacks people of all nations, yet one, the most baneful effects of which are seen among the higher types of mankind, especially affecting those in the better walks of life, and, from an economic standpoint, in their most productive years, cancer is held at times to be the price of civilization. Finally, as the most important disease which has defied modern scientific methods of analysis both as regards causation and treatment, it amply justifies the attitude of alarmist that I assume.

Packard, in support of his theory that cancer is the price of civilization, tells us that the Esquimo is practically cancer free and that malignancy was one of the evil heritages left to the American Indian with the introduction of a predisposing civilization. In contrast to his opinion, aboriginal races are said by Mayo to "have a narrow health margin," and that "the victims of cancer among primitive people succumb very quickly, so that the statements of travelers that these people do not suffer with the disease is based upon inference and incorrect observation." This discussion, while interesting, fades into practical insignificance when we think of the increase in the incidence of malignant neoplasms among the races of men far advanced in learning and culture. In our own country, made up as it is of a heterogeneous mixture from all parts of the old world, where the intermingling of innumerable strains has produced a type which should, in biologic reasoning, be possessed of the virility of youth, there is an alarming increase in the incidence of cancer. This increased susceptibility to malignant neoplasms is manifest in the health reports of all nations. In the United States, the census of 1910 attributed 75,000 deaths to cancer, an increase of 8,000 over the report of 1908, and this increase was most marked on the average in the western states, while the state of New York alone during the last year lost 8,000 of its population from cancer. In Massachusetts the death rate from malignant tumors has doubled since 1875, and the average death rate of the entire country has increased from 47.9 per 100,000 in 1890, to 75 per 100,000 in 1907. It is obvious that there is just cause for alarm in view of the decided increase in a disease with which modern methods

of treatment have proved themselves unable to cope successfully. It is for this reason that cancer overshadows tuberculosis, for the hope of cure without a mutilating operation is in vain, and eradication, as a rule, is impossible except in the early stages of the disease. There is a lack of faith in the operative treatment of malignant tumors, an attitude of resignation to an inevitable fate, that is firmly lodged both among the members of the profession and the laity, which prevents the surgeon from applying the knife in the early and operable stages, with the result that a vicious cycle of procrastination and hopeless operation has been established. This is the price that the present generation is paying for years of surgical limitation and ignorance of pathology. It is the demand of the hour to dispel this ignorance among the medical profession, and to diffuse knowledge of the fact that the flight of time alone delimits the curative powers of surgery.

A good deal of valuable information regarding the life history of tumors and the relationship which they bear to the human body, has accumulated. We have learned that the malignant tumor is an aggregate of cells, lawless in character, forgetful of their relationship to the body as a whole, having no functional purpose, with exalted powers of reproduction, manifesting the malign properties of local invasion and destruction of adjacent tissues, and often the ability to disseminate themselves in the form of secondary growths resembling the parent tumor, and to produce general organic injury through the medium of their metabolic products which have a toxic action. We may compare such a collection of cells to an outlaw band in the body politic which gathers to itself sufficient power to overthrow the government. In a sense malignant disease may be regarded as an infection, the infecting agent being the single cell which has acquired the peculiar biological properties above enumerated. In this sense the infecting agent of cancer has been spoken of as unicellula cancris. The essential fact which is yet to be discovered is that of the primary influence or influences which cause the malignant cell to start upon its destructive career. Whether its relationship to the body of which it is a part is lost as a result of trauma or chemical or bacterial or other infective agencies, or whether it is an expression of aberrant biology as deep as life itself, we have at the present time no means of knowing.

In our treatment of the subject we have to rely upon observed facts without the help that would undoubtedly come from a complete understanding of the underlying causes. The lesson of first importance is the fact that all malignancy is primarily a local process and not the local manifestation of a general disease. The importance of this triumph of living pathology is difficult to over-estimate, for not only is the operative treatment fundamentally based upon this fact, but through its teachings, the necessity of operating while the condition is still a local process has become universally recognized. The nature of metastatic dissemination of carcinoma and sarcoma followed this demonstration of the fundamental pathology of tumor disease, and the early studies of Heidenhain in the lymphatic spread of mammary cancers have borne fruit as indicated in the increased percentage of cures from 14 per cent of the surgeons of a generation ago, to 50 per cent of five-year cures in Halstead's series of cancer of the breast. It has been of still greater value in the proof that it has given, that cancers are curable only by excision.

The most recent and perhaps the most important addition to the understanding of tumor genesis is the clinical as well as microscopic recognition of certain changes in the tissues that highly predispose to malignancy. Irritation, ulceration, malignancy is a pathologic sequence that is frequently seen in the development of cancer. This applies not only to superficial tumors and those affecting hollow viscera, but similar changes are held to antedate the actual development of malignancy in the parenchymatous organs.

Highly illustrative of pre-cancerous changes is the report of Neve, of 1,720 cases of malignancy among the Kashmiri, in 848 of which the disease primarily affected the superficial tissues of the thigh and abdominal wall. In all these cases the cancer was preceded by irritation and ulceration due to the custom among these people of warming their bodies by means of a receptacle filled with burning charcoal and strapped to their bodies in such

manner that the heat is most intense at the site of development of the malignant tumor. Hislop and Fenwick mention the report of a series of 201 cases of cancer of the penis among the Hindoos and state that the author never saw an instance of the disease primarily affecting this part among the Mohammedans with whom circumcision is a religious rite.

In a considerable experience I have never met with cancer of the penis in a Hebrew, in a subject properly circumcised nor in the absence of antecedent phimosis. All of the 100 cases of cancer of the tongue operated upon by Bottini were users of tobacco. Twenty-four of the 3,084 cases of gallstone disease operated by Mayo had cancer of the gall-bladder and stones were present in every case. Chimney sweep cancer, Marjolin's ulcer and the ulcus carcinomatosum of the stomach are all examples of the distinct tendency for malignant change in tissues which are subject to chronic irritation Polypoid disease of the small intestine, diverticulitis of the large intestine, ulcer of the stomach, tears of the cervix uteri, X-ray dermatitis are universally recognized as precursors of malignancy. Ribbert has drawn attention to the impossibility of cancer development in the presence of an intact basement membrane, however luxuriant the proliferation of the epithelial cells. The changes that permit of the cellular invasion of malignancy are irritative and ulcerative in character and of chemical, bacterial, mechanical or thermal origin. The specific changes, according to Bonney, are defects in or loss of the elastic fibers of the basement membrane. Accepting the foregoing views as a working basis, to what practical application can they be put in the diagnosis and treatment of tumors of the breast?

Bonney tells us that the most frequent cause of elastic tissue destruction in the breast is chronic cystic mastitis. This writer, with Paul and Beadles, found the condition in association with 100 per cent of the cases studied, while Speese, MacCarthy, Judd and others estimate the frequency of this association as from 25 to 75 per cent. The breasts of most adult females contain areas of chronic mastitis, the cystic element being merely an expression of an advanced state of the disease. It is a condition that usually results, as Handley says, from a "marked deviation in the physiologic processes of involution and evolution associated with the sexual crises, puberty, menstruation, lactation and pregnancy" and the result, as Warren tersely describes it, is "the cobblestone breast."

The second important predisposing cause of cancer of the breast is the benign tumor, 30 to 35 per cent of which, according to Judd, undergo malignant degeneration. In sarcomatous disease, the antecedent condition is more indefinite, but if we accept the dictum of von Bergman, that sarcomata grow on a nidus of extravasated blood consequent upon injury, we will meet all the requirements of practical application. It would seem to follow that the potentiality of cancer or sarcoma exists in the breasts of every woman.

There is a woeful lack of appreciation, not only of this predisposition, but of the real significance of progressively increasing mammary growths. Two evident indications of this are the lapse of 30 months on the average in our operated cases between the time of discovery of the lump and the time of operation, and the presence of extensive ulceration in 15 per cent of the series.

In seeking to explain the cause of inoperability in a large number of neoplasms when first seen by the surgeon I have been led to conclude that the following are the chief contributing factors: (a) Tumors of the breast rarely give rise to subjective symptoms in the early stages of their development, and the classical physical signs, such as retraction of the nipple, fixation of the tumor, etc., are from the standpoint of curability almost terminal in their significance; (b) A fair percentage of malignant mammary tumors are far advanced when first discovered. (c) An inexplicable attitude of procrastination is assumed, not only by the patient but also by the physician, when actual suffering or very obvious signs of malignancy are absent. (d) There is a lack of knowledge on the part of physicians of the fact that in the early and curable stage of breast cancers no living man can with certainty differentiate the benign from the malignant by external examination alone. When a man of superior experience and intelligence as the late Maurice Richardson affirmed that the more he saw of mammary tumors the less

was he able to distinguish the benign from the malignant by clinical means, the futility of expecting the practitioner to possess this ability becomes apparent.

Abbe has recently advocated the routine examination of the organs predisposed to malignancy and this impracticable suggestion offers the only means of determining the presence of a majority of tumors in their earliest stages. It is obvious that this plan, which seeks to go a step beyond the inherent weakness of procrastination in human nature will never meet with practical materialization. The very best that we can hope for is a general recognition among the laity of the necessity of immediate medical consultation with the discovery of a lump in the breast, and that degree of appreciation, of the meaning of such lumps which will result in bringing every case to the earliest operation possible.

Diagnosis.—Sarcoma differs from carcinoma in genetic and structural characteristics, but its resemblance to the latter in its malignant attributes is so intimate that the two conditions are at times grouped under the generic name of cancer. This is disadvantageous since they present marked differences of diagnostic, prognostic and therapeutic significance. Among the 572 cases of breast tumor operated upon in the German Hospital since 1898, there were 12 which the pathologist reported as of sarcomatous nature. During the same period 192 patients were operated upon for sarcoma primarily affecting other structures, so that in 5.7 per cent of these cases, the breast was the primary focus of the disease and of the breast tumors 2 per cent were of the sarcomatous type. Study of these 12 cases shows that sarcoma differs from carcinoma of the breast in the important essentials that a characteristic rapidity of growth permits of diagnosis in a stage when operation can be successfully performed, for it lacks as a rule the insidious lymphatic dissemination which determines the impossibility of complete extirpation of so many cancers. The more cellular and rapidly growing sarcomata, it is true, are rarely subjected to operation sufficiently early to cure, but these are rare tumors. The common type of sarcoma arising from the connective tissue surrounding the lactiferous ducts offers, when somewhat advanced, few difficulties in diagnosis and a far brighter outlook for operative cure than any variety of carcinoma. A tumor of rapid growth and cystic nature, producing large lobulations, a tumor that is without symptoms and freely movable on the chest wall until a very late stage, with a covering of tense, reddish blue skin containing dilated and tortuous veins, without retraction of the nipple or enlargement of adjacent lymph nodes and frequently associated with a bloody discharge from the nipple is without doubt a periductal sarcoma. The medullary type lacks in cyst formation, but is exceedingly rapid and expansile in its growth and has a soft consistency that lends the impression of pseudo-fluctuation, with a tendency to early metastasis, features which reveal its true nature. These same features apply to the ordinary type arising from the connective tissue stroma of the organ although difference in the rate of growth determines the diagnosis. Any one of these tumors is indistinguishable in its early stages from innocent tumors or from cancers in their incipiency. Perhaps this very limitaiton of diagnostic possibility has been productive of as much harm as any single feature of the problem of breast tumors, for it evades the chief issue which calls for excision of every tumor upon its discovery, regardless of any condition save a decided contraindication of operation from other causes, or an inoperability of the tumor itself, which would be rare if the above rules were adhered to.

The diagnosis of incipient malignancy of the breast, in the majority of cases, is a pre-operative impossibility. I regret to say that we are so often called upon to decide the question of operability of tumors of the breast, that any uncertainty in diagnosis is welcomed with a decided measure of hope for the success of proper operative treatment. As opportunities to enjoy this hopeful uncertainty become more frequent with increased knowledge of pre-malignant lumps, the prognosis of mammary sarcoma and carcinoma will assume an exactitude now absolutely lacking in the majority of cases, and the verdict instead of sealing the fate of countless women, will insure them freedom from the sufferings of a terrible disease.

In the early stages of any tumor of the breast there is but one course of procedure, excision of the mass and immediate gross

inspection of the cut surface of the growth supplemented by microscopic diagnosis of frozen tissue sections. The surgeon must be an expert surgical pathologist. The earlier the case the more difficult it is to recognize the signs of malignancy even on direct inspection. It is only by careful comparative work with tissues from operation that this ability can be acquired. In the case of frozen sections everything depends on "the man behind the gun." It is an easy matter to master the technique of frozen sections, but the diagnosis requires ample experience and ripe judgment. Here, again, it is in the cases that are most difficult for the surgeon to recognize, that the greatest skill is required of the microscopist.

In the event of finding malignant degeneration, whether sarcomatous or carcinomatous, the radical operation is to be immediately performed, for with the lapse of a few hours, the chances of complete ablation of the disease are remote owing to traumatic dissemination of the tumor cells incident to the primary operative procedures. In late cases, it becomes a question of whether to do a radical operation, or to leave these unfortunates to the mercies of fate or to the unsatisfactory substitutes for operation. This raises the question of the operability of malignant tumors, a question that should invariably be answered by the surgeon. What justification has the physician for advising the X-ray in malignant tumors before an opinion is sought of the applicability of the only proven means of relief of the disease—the knife. The hypodermic injection of anti-malignant sera, the application of the X-ray, radium, the forcible laying on of hands with osteopathic determination, and the prayers of Christians with scientific intent, in cases of operable malignancy should be considered in the same class of malpractice with the induction of criminal abortion. Our experiences with an experimental treatment of inoperable cases by the subcutaneous injection of an emulsion of cancerous breast were most unsatisfactory. Dangerous septicaemia resulted when the emulsion was introduced without sterilization, and the latter procedure destroyed the beneficial power which the unsterilized emulsion seemed, at least in one case, to possess. In sarcomatous disease Coley's toxines should take the place which we believe the X-ray holds in carcinoma, i. e., as a prophylactic measure against post-operative recurrence, and as a palliative in cases of recurrence in which the position or extent of the growth or the debilitated state of the patient preclude further operative treatment, and finally, in all operable cases.

The surgery of mammary cancer, as of cancers elsewhere, is not the surgery of the growth itself, but of the regional lymphatic area. The idea current among the laity concerning the uselessness of cutting a cancer is based upon sound fact. Many a patient has been hurried to the grave by ill-advised operation upon cancerous tissue. The old "withering scirrhus" which might exist for a number of years without causing death is no longer seen. Operation in these cases when they have become fixed to the chest wall, or are otherwise inoperable from the standpoint of cure, only cause the growth to take on greater activity and terminate life the sooner. Such cases, however, so far from proving to be an argument against the operative treatment of cancer only point the contention that any operation to be curative must widely excise the diseased area in the light of the known paths of lymphatic permeation.

The operation which I perform is essentially that elaborated by Halsted. It removes the breast with a sufficient area of the overlying skin, with the subjacent pectoral muscles and fascia and includes in the mass the lymphatic bearing tissues of the axilla, and not infrequently the subclavicular region. The upper end of the skin incision should be upon the anterior axillary fold and never encroach upon the axilla, in order to avoid a scar that will interfere with the later movements of the arm. The axillary dissection I begin at the apex of the axilla after the breast had been loosened from the chest wall. If this is done I believe it makes little difference whether one first dissects the axilla and later removes the breast or vice versa. In any case the tissues are removed en bloc and never piece meal. Hemostasis must be as complete as ligatures can make it, but I find it an advantage as a rule to insert a small rubber tube into the axilla in order to carry off the invariable capillary oozing. This tube is brought out through a stab in the lower skin flap. For the first few days the arm

is kept at right angles to the body, since healing in this position is less likely to interfere with the use of the arm.

In spite of the extensive and apparently mutilating character of this operation shock is practically never seen, hemorrhage is rare and never lethal, infection is so uncommon as hardly to be considered, and the function of the arm is but little affected. So satisfactory in fact is the operation that it seems a small price to pay for escape from the horrible death entailed by cancer of the breast unoperated or operated upon too late. So safe is it that the physician or patient who prefers to risk life in order to avoid it by delaying until the unmistakable signs of cancer are in evidence may well be accused of profound ignorance or of judgment that is most puerile and lacking in the estimation of relative values. So necessary is it that for the lack of it approximately 6,000 women die yearly in the United States alone.

The necessity of performing the radical operation in sarcoma of the breast is questioned by some surgeons. Although infrequent, these tumors are at times associated with axillary lymph node involvement not to be detected by palpation, local recurrence is a common operative sequel, and, as in carcinoma dependent either upon failure to remove outlying foci of disease or upon operative implantation of cells. The primary mortality is not increased nor is the function of the arm greatly decreased with the radical operation. For these reasons the latter is to be advised in all cases of malignant breast tumor, with wide excision of the skin and wide excision of the deep fascia. In either sarcoma or carcinoma actual attachment of the mass to the chest wall denotes inoperability. In sarcoma, however, involvement of the skin even to the point of ulceration has not the significance, as regards the futility of ablating the local process that obtains in similar conditions in carcinoma. The likelihood of internal involvement is, of course, increased by the lapse of time, for these are late cases. This question of operability has to be decided by local and general physical examination of the visceral and skeletal systems as recently suggested by Judd. Mistakes are inevitable, but every effort should be made to determine accurately the operability of malignant tumors, for upon the careless performance of this task comes much of the present day lack of faith in the surgery of tumors. A remarkable feature of sarcoma is the possibility of cure after repeated operations on local recurrences of the disease. Connell speaks of a case that recovered completely after four operations. Gross removed 53 spindle celled sarcomata in 23 operations during a period of four and a half years and the patient was entirely well eleven years later. Similar experiences in carcinoma of the breast are not unheard of, though of extreme rarity. Authentic cases of spontaneous cure disprove the old assertion that nature is defenseless against malignant neoplasms, but the fact that Packard found only instances of this happy event, inspires little confidence in her defenses. The application of the aseptic scalpel to tumors in their pre-malignant stage is the rational treatment. Full development of this phase of surgery rests with the future and these opportunities, now rare, will increase in number when the symptomless lumps, chronic ulcerations and various irritative influences are recognized in their true light as the predisposing causes of malignant growths inspiring prompt and radical action which will offer cure in those tumors already incipiently malignant, while in those which are still benign the development of malignant character will be forestalled.

Finally, I wish to emphasize the fact that success in the prevention and cure of cancer depends in large measure upon the education of the laity, that the interest and co-operation of the intelligent non-medical public must be enlisted in the same degree as we observe at present in connection with tuberculosis. They must know that various kinds of chronic irritation act as strongly predisposing causes of cancer. They must know that cancer is at first a purely local disease. They must know that in this stage cancer is surely curable by excision of the affected tissue. They must realize, therefore, that early recognition of the disease in its incipiency is the crux of the whole question. They must appreciate the difficulty of diagnosis in this stage and be on the alert to bring to us for our opinion all lumps, curious ulcerations, atypical hemorrhages, and unexplainable indigestions. They must be instructed not to

expect the impossible in the form of a positive diagnosis without recourse to all the diagnostic means at our command, the most reliable being direct gross and microscopical inspection of the suspected tissue.

Lastly, there must be a concerted and powerful public opinion that will shame the laggards and procrastinators, both in the profession and out of it, that will attack the reputation of the man whose mal-advice permits a cancer capable of diagnosis or suspicion to reach the incurable stage, just as public opinion now condemns the physician who delays operation in appendicitis until the deadly sequel, peritonitis, has set in. When this stage has been reached then, and only then, can we hope to reduce the numbers of the annual army of 80,000 lives which in the United States alone are victims of this Captain of the Men of Death.

THE EARLY DIAGNOSIS AND TREATMENT OF MALIGNANT TUMORS.

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(Read at Annual Meeting State Medical Ass'n, May 22, 1913)

For the early diagnosis and proper treatment of malignant tumors the fulfillment of two conditions is an absolute necessity.

1. That the patient come under the observation as soon as the first symptom or symptoms of the disease are manifest. 2. The ability to recognize malignancy early, and not to temporize and wait until the condition becomes inoperable before advising the patient as to what should be done.

Now in order to have the patient come under observation early in the disease there must be a wide dissemination of the knowledge of the earliest symptoms of cancer, so that patients having one or more of these symptoms will present themselves for treatment without delay. Such a dissemination of knowledge may be accomplished either by properly authorized articles in the lay press, public addresses by medical men, or by advice given by the family physician, with whom at the present status of the question, lies practically the entire responsibility. Take as an example of what publicity can do in such matters, the wonderful good that has been accomplished in the past decade in the prophylaxis and cure of that dread scourge, tuberculosis. Does not cancer demand equally as stringent measures for its prevention and relief? In this matter the Germans seem to have been the first to take the initiative.

Some years ago Duhrssen of Berlin undertook such a step and in 1902 Winter (1) of Konigsburg, by letters and addresses to physicians, by articles published in medical journals, and by articles for the laity in the leading daily newspapers sought to reduce mortality rate from cancer of the uterus. By this means he was able to raise rate of operability to 74 per cent, as compared with 62 per cent before this publicity campaign. Boldt (2) of New York, in an article in the J. A. M. A. of March this year, says that after consulting a number of men working in Germany in regard to the effect of the Winter plan of publicity in increasing the number of operable cases applying for treatment, these men tell him the per cent has not been increased, but that the number of neurasthenic women was made greater. In conclusion he urges that the profession be made conscientious and thorough in the matter of examinations, and that the teaching on this particular subject come from the family physician.

In the matter of creating neurasthenics might not the same be said of the publicity campaign against tuberculosis, but who would doubt the enormous good that has arisen from this campaign. Granted that many seek the advice of a physician fearing tuberculosis when there is nothing the matter, but think of the thousands of incipient cases discovered, and of the countless saved from an untimely grave. Is not this the great means of sifting the wheat from the chaff? Of course, in the case of cancer, the operative treatment is at present the only sure means of cure, and some may say that such a procedure might lead to many unnecessary operations by the unskilled which, in itself, is a condition to be deeply deplored, but barring all this, is it not the only way to reduce the mortality from this dread disease. This publicity campaign has been taken up by the A. M. A. at several of its meetings and referred to committees on Public Instructions

on Medical Subjects, and only this month by congress of Physicians and Surgeons meeting Washington. Any articles appearing in the lay press should bear the stamp of approval of the A. M. A. or the State Society, and not be signed by any one writing them for ethical reasons. Public addresses, exhibits as those given on tuberculosis would certainly be of vast good, and where many would be shocked and stay away on account of false modesty, much of the seed would fall on good ground, spring up and bear fruit. As the matter stands, the family physician is the only source from which any true information on this subject can be gained, and many women either from fear of an operation or false modesty, will never seek their physician's advice until it is entirely too late. Would not articles in the newspapers set them thinking along these lines, and help them look at matters from a common sense standpoint? Again, after the family physician is consulted, should he not make a careful and thorough physical examination, and not be contented until he has exhausted every means at his command to establish the existence or non-existence of malignancy, and finally, after this if he discovers that cancer be present, is it not his first duty to see that his patient be referred to an especially skilled surgeon to receive the proper operative treatment, and possibly be entirely cured. Then, and only then, shall he have fulfilled his high calling, and removed entirely from himself the blame and blot of temporizing, which latter can only prove a curse to himself, and death to his patient.

In the short time allotted I shall only attempt to bring out and emphasize the most important diagnostic signs and symptoms of malignancy in breast and uterus. Eighty per cent of all breast tumors are malignant, and fifteen of the remaining 20 per cent become malignant, the age of occurrence being from 30 to 70 years and over. Therefore, any tumor of the breast clinically benign may at any time become malignant, so its discovery demands nothing short of its prompt removal. A tumor may be definitely encapsulated, freely movable, and accompanied by no change in the nipple, and still be a beginning malignancy. In determining the free mobility of tumor, the pectoral muscle should be contracted. In a malignant tumor there may be atrophy of the subcutaneus fat due to its absorption by the tumor cells; dimpling of the skin, due to bands of adhesions radiating from tumor to skin, and shown readily by picking up skin over tumor; infiltration and ulceration are of course positive signs of malignancy, but also occur in pyogenic and tubercular mastitis with abscess formation, but in the latter conditions the history will straighten matters out; retraction of nipple generally made out on inspection, but often by lifting up nipple and seeing that it is freely movable in all directions; discharge from the nipple may be clear, cloudy or bloody, and indicates a cyst which may or may not have an intracystic papillomatous growth, and may or may not be malignant, and hardness and irregularity of tumor with infiltration of breast which always spells malignancy. Palpable glands in the axilla do not always speak for malignancy, unless of unusual size and hardness. Their enlargement may be due to hyperplasia as sometimes occurs in senile parenchymatous hypertrophy. Pain may or may not be present, and it usually depends upon the size of the tumor, and its pressure upon the surrounding tissues. These are the chief findings in case of malignancy.

The treatment of breast tumors is removal, the extent of the operative procedure depending upon whether malignancy be present or not. Often it is not possible to determine the presence of malignancy except by exploratory incision, by which, if malignancy be revealed or strongly suspected, the complete removal of breast, pectoral muscles, and axillary contents will give the patient the only hope of permanent relief. The old law of Heidenhain, established more than a quarter of a century ago, that in operating for carcinoma the limiting incision should be made at least three inches from the visible expression of the disease, is now judged by surgeons to be too narrow for safety, and the complete breast operation of Halstead or its elaboration is recognized by most surgeons as the one giving the patient the best chance. Any operation dealing with the tucking of the muscle into the axilla for preventing oedema is dangerous, for oedema can be managed in the complete operation by the proper padding of the axilla and putting the arm up

in the proper position. Ross (3), thinks all breasts affected with senile parenchymatous hypertrophy after the patient has reached 50 should be removed, and says the case had better be left alone where cancer exists if anything short of the complete operation is done. He further says the sooner we cease to worship the age incidence of malignant disease as a fetish, the better it will be for the patient and the reputation of surgery.

In cancer of the uterus, cure of course, depends primarily upon seeing the patient very early in the disease, and a radical operation. The location of the cancer in the uterus has also largely to do with the hope of permanent relief, a cancer in the fundus being much slower in metastasizing than one in the cervix. At the Johns Hopkin Hospital, 80 per cent of the cases of cancer of the fundus were cured by operation, while only 15 to 18 per cent of the cases of cancer of the cervix were cured. Of the etiological factors child-bearing especially in relation to neglected cervical lacerations seems most important. According to the research of Kampermann (4), 92 per cent of all cases of cancer of cervix present a history of child-bearing, and 72 per cent of cases of cancer of fundus. Cancer of the uterus, although more common in parous, may develop in nulliparae. The age of incidence is from 35 to 60, although it sometimes occurs before 35. Increased menstruation, metrorrhagia, pelvic pain, or leucorrhea, either occurring singly or together between the above mentioned ages should lead the physician to strongly suspect cancer, and he should not be satisfied until he has used every means at his command to demonstrate conclusively that cancer is not present. Lehman (5) urges that the laity should be taught insistently that the menopause is a gradual subsidence of menstrual hemorrhages, the losses of blood growing less and less, and occurring at longer intervals. Any increase in frequency of amount should arouse alarm as a sign of malignant disease. Any atypical intermenstrual bleeding, "spotting" or otherwise, should be looked upon as a most suspicious sign. Shoemaker (6) says when a year or two has passed after a normally established menopause, the appearance of blood, if only a small spot, from the genitalia often means cancer. It need not be persistent, it need not be abundant; its very presence more than a year after the menopause is sufficient to arouse grave apprehensions of malignant disease. Pain, although it occasionally occurs early in the disease, is usually a late symptom, and according to Lewers in a late article in the Clinical Journal, means an extension of the process beyond the cervix. The sooner the public is disabused of the idea that cancer is necessarily painful the better it will be for it. Leucorrhoea is, as a rule, the earliest symptom of the disease, and although quite commonly present in women at the cancer age, any increase in its amount, and particularly the slightest admixture with blood should be looked upon as very grave. Dr. Kelly says in his recent work on Medical Gynecology, "If every family physician would make it a point to take advantage of the opportunities afforded him by such relations (as family physician) to point out the significance of hemorrhage, vaginal discharge, and pelvic pain occurring about the time of the menopause, he would accomplish more toward diminishing the death rate of cancer than can be done by any other means we can command at present."

The physical findings on vaginal examinations depend, of course, on the extent to which the disease had advanced in cervical carcinoma. The cervix is somewhat enlarged, one lip may have hard nodules in it or there may be teat-like projections from it with enlarged vessels coursing over it. On withdrawal of the examining finger blood may be found on it which is of great diagnostic significance. Later ulceration with a hard margin and friable masses which bleed and break down readily depending of course, upon the extent of the involvement. The fundus is not enlarged in cervical carcinoma unless the cervical canal be plugged, and a pyometra be present as a result. In cancer of the fundus that part of the uterus may be enlarged to the size of a three months' pregnancy. Carcinoma of the fundus can only be diagnosed after a thorough currettage and microscopical examinations of the scrapings, while in cervical disease the removal of a wedge-shaped piece of the cervix for microscopical examination is always in order where any doubt exists. Conditions

sometimes mistaken for cervical carcinoma are a red everted cervix with multiple red bleeding plaques, so-called "erosions," cysts of the nabothian follicles present themselves as hard nodules which, when punctured, emit a glairy mucus and disappear, and a submucous pedunculated fibroid undergoing degeneration and presenting at the cervix.

The treatment for cancer of the uterus is total extirpation by a radical operation, preferably by the abdominal route, although sometimes done, particularly on obese patients, per vaginam. The work of Clark, Simpson, Riss, Wertheim and others has been chiefly along the line of perfecting a more radical operation. Upon the free mobility of the uterus depends the operability or inoperability of the case. Of course, sometimes pelvic inflammatory disease, pyometra, and an enlarged carcinomatous cervix may fix the uterus, these conditions making the radical operation more difficult, but not interfering with the outlook so far as a cure is concerned. Kelly says that if a cancerous uterus can be removed no matter if the outlook be doubtful, it should be done because if it returns the disease may be in a modified form, characterized by absence of foul discharges and hemorrhages, and sometimes the case may go for years without a recurrence. Mayo says that his percentage of cures after the radical operation for cancer of the uterus increased considerably after he abandoned cutting instruments for the cautery knife, and that he believes the better results attributed so much to removal of pelvic and iliac glands by the abdominal route to be due not so much to their removal as to the destruction of the carcinomatous cervix by the cautery immediately preceding the abdominal incision. Taussig (8) says that the operability in this country is less than one-half that of the average German clinic; this, he says, is not due to lack of skill on the part of our surgeons, but to the fact that the women of this country are negligent of early symptoms, and the average practitioner is careless of diagnosis or inclined to try palliative measures until the disease is too far advanced.

Thus we see that the entire responsibility in this matter lies on our shoulders; first, for not giving the proper information to the public, and secondly, for being lax and negligent in our history taking and physical examinations, and finally, for not excluding the possibility of cancer by every known means. Do not think me pessimistic in this matter, but I firmly believe there is no better time to act than the present. All of us see frequently the pitiful figure presented by patients in the last stages of this dread disease when only palliative measures can be attempted to help relieve their suffering, but let so far as possible this picture be obliterated, and let us behold a vision of a life-saved and health-restored people. Ours is the battle, and we should not be content to lay down our weapons, save when glorious victory shall have crowned our efforts.

1. Centralblatt fur Gynakolgic, 1904. Vol. 28. p. 441.
2. J. A. M. A. March 29th, 1913, p. 968.
3. Medical Press and Circular, London, Oct. 9, XCII., No. 3832.
4. Am. Jour Obstet. and Diseases of Women and Children, N. Y., Oct. LXVI., No. 418.
5. Zentralblatt fur Gynacolgic, Leipsic, Jan. 11, 1913. XXXVII., No. 2.
6. N. Y. Medical Journal, 1905, Vol. 83, p. 1092.
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REPORT OF THE INTERNATIONAL CONGRESS OF SCHOOL HYGIENE.

R. H. Edmondson, M. D., Morgantown, W. Va., Medical Inspector of Schools.

(Read before Monongalia Co. Teachers' Institute.)

The greatest educational meeting ever held in the United States was the International Congress on School Hygiene, at Buffalo, N. Y., the week of August 25-30. Practically every civilized country was represented. The opening meeting was presided over by Dr. Chas. W. Elliot, president emeritus of Harvard. Every phase of child life was considered from various viewpoints during the week, school feeding, oral hygiene, conservation of vision, health supervision of university students, school illumination, relation between physical education and school hygiene, tuberculosis among school children, the Binet-Simon test of mentality, the mentally de-

fective child, the rural school, school nurses, open-air schools, medical inspection of school children, fatigue and nervousness among school children, child labor, etc., etc. Dr. Elliot's address was in part, as follows:

"The reason for this fresh interest in this branch is a better appreciation of the fact that the progressive civilization of the last hundred years has worked terribly against the health and the perpetuity of the white race.

"Within that time the factory system has come into common use, making multitude tenders of machines indoors; the cities have attracted in some countries or parts of countries the majority of the population; democracy has abolished some ancient, wholesome restraints and brought in some dangerous new liberties; applied science has quickened the rate of living both at work and at play, and has brought about a high degree of nervous tension for the most intelligent and ambitious portion of the community. The consequences of this remarkable development are seen in the reduced vitality of the multitudes that inhabit closely built cities, in the diminishing size of families, in the incapacity of many women for bearing and nursing children, in the prevalence of venereal diseases, and in the disproportionate increase in the number of insane, the defective, and the criminally inclined.

"Under all forms of government the collective forces and resources of the people are freely used in the interest of society as a whole against individual rights, parental rights, and what used to be considered clear business and property rights.

"'Through the teaching of hygiene in the schools,' Dr. Elliott said, 'parents could be influenced and the results would be manifested in more beautiful and sanitary homes.'

"To teach and follow good hygienic methods in schools is far the best way in a democratic society to improve the hygiene of the home. It is the Boy Scouts and Camp Fire Girls that can clean up a village and the country highways and keep them clean. If a high school gives to all its girls good instruction in buying, cooking and serving food, it will affect the diet of every family represented in the school; and such teaching, persevered in year after year will ultimately improve the food of a large community."

Not the least part of the Congress was given over to papers and discussions calling public attention to the urgent need of extending medical inspection throughout the individual communities of the United States.

The need of reform, according to the educators, is based upon the findings made by recent medical inspection in the schools which show: That of all pupils, 26 per cent suffer from eye strain; that 6 to 12 per cent suffer from enlarged tonsils; that 12 to 24 per cent suffer from nasal obstruction; that 2 to 5 per cent suffer from defective hearing; that 50 to 75 per cent suffer from decayed teeth; that 10 to 30 per cent suffer from nervous disorders; that 5 to 20 per cent suffer from some deformity; that 1 to 15 per cent suffer from skin diseases; that 1 to 67 per cent suffer from pediculosis of the scalp.

Laws providing for medical inspection are needed, says a report of the Sage foundation, because experience has demonstrated that efficient medical inspection betters health conditions among school children, safeguards from disease, and renders them healthier, happier and more vigorous.

This resolution reads:

"*Resolved*, That it is the sense of the Fourth International Congress on School Hygiene that in each one of the United States such legislation should be made effective as would permit the establishment of systems of medical inspection and examination of school children so that each school child in the United States would come under the hands of such health supervision."

The Congress also adopted a resolution recommending the use of discarded battleships as open-air schools. The preamble to the resolution regarding the battleships states that nearly 1,000,000 tuberculosis children are attending public schools where there is hardly accommodation for 1,500 to receive instruction in the open air.

Methods of correcting defects of vision in school children and to prevent malnutrition were the principal subjects discussed by the Congress today.

Monday evening the Congress met at Elmwood Hall and Dr. Leo Burgenstein, university professor and hygiene expert of Vienna, called the meeting to order in the presence of 2,500 visitors and Buffaloans interested in the work of the Congress.

Dr. Elliot, the first speaker, sounded the keynote of the great conclave.

"The outcome of this international congress," he said, "should be the enlightenment of society concerning the means of defending civilization against its own tendencies to decay and dissolution and the strengthening of the social resolution to put into execution all the measures which Christian ethics and the medical arts and sciences recommend."

Sir James Grant, president of the Canadian committee, followed Dr. Elliot.

This venerable leader who, despite his eighty-two years, was one of the most active participants in the Congress, created a profound impression on his hearers.

Sir James said, in part:

"Two exceedingly important problems are before us, the consideration of the child outside the school, and in the process of education within the school To accomplish a good and lasting work, care and inspection of a coming generation should include child life at home and in the school.

"Child life may be considered under three important aspects—the home, child diet, and intellectual development. The homes stand first as the fundamental center of society.

"The food of the child at school is second only in importance to that of the infant, and here rests greatly the home responsibility of mothers. Modern school life is exciting, and food should be such as to quiet and soothe—plain, simple and nutritious, easily digested and assimilated. Practical instruction to mothers on child diet would serve a good purpose and save many valuable lives.

"Next in importance is the acquirement of knowledge. Mental hygiene and physical hygiene are inseparably associated in the essential balance of mind and body. The mental and physical well-being of youth should advance equally and one of the most difficult and trying problems is, how to build the best brains out of the material at our disposal. Each brain, like each blade of grass, is single in character and power and must be studied on its merits to fit it for the varied duties of life.

"Careful school inspection is fortunately becoming generally adopted. Ten years ago there was only one medical inspector of a school board in the whole of Scotland, and at present not less than 105 such scientific experts are engaged, and in England and Wales fully 443 inspectors. In Europe, Canada and the American Republic this progressive idea is generally adopted. In Edinburgh an impression is gaining ground that physical culture comes before the humanities and hygiene is reckoned of greater importance than higher mathematics."

Tuesday, papers, symposiums and discussions were given to move plans for making schools more hygienic and more efficient agencies of education.

Among those who read papers were: Dr. Felix Martel, head of the educational system of France; Dr. Ernesto Cacace, Royal University of Naples; Health Commissioner Samuel G. Dixon of Pennsylvania; Dr. A. J. McLaughlin, United States surgeon in the Philippines; Prof. J. E. Raycroft of Princeton University, and Prof. William H. Burham of Clay University.

Tuesday evening a symposium on Oral Hygiene was held. Dr. W. G. Ebersole, M. D., D. D. S., secretary-treasurer of the National Mouth Hygiene Association, of Cleveland, O., presided. He stated that the care of the teeth was of great interest at this meeting, at which boys and girls were used as clinic material. Defects of the teeth were held to be the cause of backwardness of children, and the scientists showed from actual experience that the eradication of dental deficiencies had been followed by improved memory and other mental qualifications. The dentists urged the appointment of nurses in the schools to teach boys and girls the care of the teeth. Installation of nurses for teaching the children the care of the teeth was urged.

Dr. Thaddeus P. Hyatt, D. D. S., of New York, dental consultant and lecturer of the New York City Department of Education, discussed the subject of "Mouth Hygiene, Its Relation to the School Child, Mentally and Physically." Dr. Hyatt traced cases of deafness, blindness and other afflictions to improper care of the teeth. He asserted that the condition of the mouth also has much to do with the growth of a child.

The Binet-Simon test for mentality was interestingly demonstrated by Dr. Wallace Wallin of the University of Pittsburgh. This was made to show how the grade of mentality of an individual is determined. By applying certain experiments Dr. Wallin is able to demonstrate the mental age of an individual as compared with his actual age.

Marcus Dow, safety agent of the New York Central lines, advocated that safety instructions be given in the schools to diminish fatalities and injuries caused by railroad and vehicle accidents.

Dr. Roland O. Meisenbach held a clinic to show how infantile paralysis is carried by common flies. The animals with which the demonstration was conducted had been fed on the larvae of flies sent from a western state, where an epidemic of infantile paralysis recently broke out among limberneck chickens.

The dominant question of interest during the entire Congress was "Sex Hygiene." The session on sex hygiene had been scheduled at the city hall, but long before the hour for opening the meeting a large crowd assembled and it was decided to hold the discussion in Elmwood Music Hall. When Dr. Elliot called the meeting to order there were 2,000 delegates present, the vast majority of whom were women. It

was the largest attendance at any discussion session.

Dr. Elliot read the first paper. He said, in part:

"A remarkable change of public sentiment has taken place in regard to sex hygiene, using the term in its broadest sense. The policy of silence has been almost universal. If the community is to be protected the policy of silence and concealment of social diseases must be abandoned by the medical profession and by the boards of health. To young people the problem has become an intensely practical one. Fathers and mothers feel a new duty toward their children. Churches take a new interest. Legislation is advocated.

"No one force or agency can be completely relied upon. The attack must be against the three principal causes of the present evil condition—first, lust in men; secondly, against the weakness, dependence, mental deficiency and lack of moral principal of women who supply the demands of men; thirdly, greed and depravity of the wretches who maintain a profitable commerce out of the licentious demand and supply.

"Defensive agencies against lust include full occupation of mind and body, manly sports, ambition and energy in the earning of the livelihood, timely knowledge, temperance in food and drink, and deliverance from mischevious transmitted belief. The best source of information is the parent, but schools, churches, and other social agencies must be utilized. The public press must aid. It must be made impossible for either young men or young women to plead ignorance as an excuse.

"Against the lack of mental and moral stamina in women may be invoked segregation for the feeble-minded. Family, school, church and other social organizations should contend against indolence, love of excitement, self-indulgence and the like.

"Commercialized vice should be attacked in all its forms by all the powers of the law. The ancient policies of toleration and licensed segregation and regulation must be uprooted.

"**Public progress in regard to sex hygiene and eugenics is to be procured chiefly through educational methods. The work must be done delicately**, without exaggeration or morbid suggestion, without interference in parental rights or religious convictions, and in a general and in a **pure, high-minded, disinterested way. The pioneering voluntary association should enlist gradually** the public authorities in this vast undertaking, and transfer to the public treasury the **support of those parts of the work which prove** to be of sure and permanent public advantage."

Dr. Hugh Cabot, in his paper, asserted that punishment as a cure for sexual evils has proved a failure and that education should take its place.

The failure of punishment as a remedy is nowhere better exemplified than in the red light districts, he said.

"We punish the woman; why not the man? We only convince her that she must protect herself at any cost against a pitiless world."

That adults as well as children are in need of instruction in sex hygiene, was the contention of Dr. Thomas H. Balliett. The New York University professor opposed class instruction in the public schools, but urged it in the high schools and universities. The great difficulty, he said, lies in finding efficient teachers.

In a brilliant oration, which was interrupted frequently by applause, the Rev. Dr. Tierney presented the attitude of the Catholic Church on the question.

"The proposed courses involve two elements, the intellectual and the ethical," he said. "The appeal is to the wrong faculty, the emphasis in the wrong place. Knowledge is not moral power. Precaution to avoid diseases is not virtue.

"**Christ, not hygiene, saved the world, and will clean the world and keep it clean.**

"No marked improvement in morals has followed the bringing to the attention of our college boys the dangers of sexual sin. As it appears to me, the detailed teaching of sex hygiene will even thwart the noble purpose in view.

"The detailed teaching of sex hygiene makes a strong impression on the imagination. Sinful thoughts, desires and conversation follow and preclude other crimes which will pass over in silence.

"Sex instruction is apt to put forward by some years the time of suggestion and temptation. Safety lies in diverting the attention from sex details. The two great natural protections are modesty (reserve, if you will) and shame, not prudery."

Mrs. Ella Flagg Young, superintendent of Chicago schools, who recently tendered her resignation because the board of education would not institute sex hygiene in the schools, was asked to open the discussion. With several members of the Chicago board who had opposed her, she came to the Congress especially for this session.

Mrs. Young was given an ovation as she arose. She told of the work being done in Chicago to instruct adults and children.

"The work is done by physicians selected for two qualifications: First, their training as physicians, and second, the high moral tone pervading their presentations of the subjects." She said, "The work cannot be taken up purely from the scientific standpoint. We must regard the ideal side. The teaching must be presented in a way that will strengthen the human soul to resist temptations. Ideals of personal purity in all things should be emphasized. We are hampered by lack of religious instruction but must do the best we can without it. She urged teaching personal purity in the schools."

Dr. Cate, in discussing this question, spoke as a mother of a son, and said: "Man has been a polygamous animal since the world began, and until mothers teach their daughters '*Dress Reform*' and discourage split skirts, X-ray gowns, and those cut to waistline both front and back, and women cease to 'air their views' on the street and refused to indulge in animal dances—such as the 'Grizzly Bear,' etc., and throwing about young men all the beguiling and seductive influences of her sex, man would continue polygamous and the knowledge of sex hygiene would not prevent it."

Any one interested in this question can get the report of the special committee on "The Methods of Sex Education," by addressing the American Federation for Sex Education, 105 West Fortieth street, New York.

Personally, I advise all women to demand a physician's health certificate of the man, before marriage.

The amount of exercise, mental and physical, that a growing boy or girl should have, was one of the questions upon which the delegates to the Congress expressed divergent views. By some it was held that there should be more open-air athletics, while others said a vigorous mental life is the greatest source of health and that too much of a fetich has been made of air and exercise. Papers on this subject were read before the play and athletic section of the Congress, of which Joseph Lee, of Boston, president of the Playground Association of America, was chairman. Dr. Lee held that a vigorous mental life and a good teacher made the best hygienic prescription.

Dr. Luther M. Gulick, president of the Campfire Girls, spoke before the same section on the "Social Function of Play."

"When it became necessary to formulate a plan for a national leisure time for girls—the Camp Fire Girls," he said, "it became necessary to study afresh the social needs of society.

"During the last few years we have been endeavoring to provide spare time and leadership whereby young people might have interesting recreation and sometimes to play, but, on the whole, we have been disappointed in the shifting character of our attendance. Children drift in and out of our playground without becoming caught in the meshes of social customs so that they are thereby lifted to a higher level of life. This has lead to an examination of the forces involved and the significance of the facts.

"Human nature makes two demands upon life—for food and for love. Life at its finest is the result of the wholesome and successful pursuits of these two ends. The one is the basis of business where man leads. The other is the basis of social life and the home where the woman leads.

"People are soul hungry without knowing it. They long for companionship more deeply than they long for anything else. Social adventure, sympathy, friendship, that is for genuine social life, the opportunity for which is disappearing from our domestic relations.

"This demand of the soul is the demand for life itself. The deepest demand of the soul is to give and receive love. For this all other things exist. The love of mothers for their children is one of the deepest and earliest of loves. Out of this has grown the family and the home. This is the basis of the social spirit. To conserve this is the fundamental social service."

School desks were ably discussed by Jessie H. Bancroft, one of the notable women in attendance at the Congress. She is assistant physical training director in the New York School Department. She is devoting her energies to procuring proper desks, seats, etc., for pupils, as she outlines today in her paper on "School Efficiency in Relation to the Posture of Pupils."

G. Stanley Hall, president of Clark University, Worcester, Mass., is chairman of the section on school hygiene in relation to the home and community. Dr. Hall is one of the Congress leaders who are seeking to bring the hygienist and the parent closer together in proper understanding and appreciation of school hygiene.

GLAUCOMA.

(Continued from November Issue.)

Edward E. Gibbons, M.D., Surgeon Eye, Ear and Throat Hospital, Baltimore, Md.

Subacute Glaucoma.—This really consists of the prodromal stage of the acute form of the disease. It may be intermittent or continuous from the onset, but passes slowly into the chronic congestive form. The sclera appears of a dusky hue, due to the deep injection and turgidity of the anterior ciliary vessels, especially the veins. The cornea has a smoky appearance and is more or less insensitive. The pupil is irregular, being tied down in places to the lens capsule behind. The iris is faded and attenuated in appearance, due to atrophic changes and the anterior chamber is shallow. Pain is not usually severe. Vision gradually fades and the disease passes into the absolute stage if treatment be not instituted.

Simple, Chronic or Non-inflammatory Glaucoma.—Simple glaucoma is a very insidious disease and is seldom seen by the oculist until far advanced. It has little tendency to exacerbation or remission. Unless arrested by treatment it leads in a course of several months or in some cases years, to irreparable and total blindness. The patient usually consults the oculist for failing vision. He may have had his presbyopic correction frequently changed within a few months. On examination the range and amplitude of accommodation will be found much curtailed, the patient appearing more presbyopic than his age would indicate. One eye alone may be affected or if both are, one will be much in advance of the other. We sometimes obtain a history of periods of obscuration of vision with the rainbow appearance about artificial lights. There is frequently a history of nervous exhaustion from some cause. The pupil is dilated and reacts poorly to light. The crystalline lens often appears opalescent while with the ophthalmoscope it will appear perfectly transparent. The tension of the eyeglobe is increased in most cases, while at the time of examination this may not be apparent. As tension fluctuates the eye should be examined several times during the day, especially after a full meal or after the trial and fatigue of the day's work. There are quite a few cases of chronic glaucoma, so-called, that never show any rise of intraocular tension. Such are more likely to be cases of progressive optic nerve atrophy with deep pitting The glaucomatous eye is usually hyperopic in refraction and if astigmatism be present it is more apt to be of the variety against the rule. Both direct and indirect vision suffers in chronic glaucoma, but especially the indirect or peripheral vision. Often a considerable degree of central vision is retained for a long time after the field of vision has become so curtailed that the patient cannot go about alone. In such cases complete blindness is apt to come on suddenly. In all cases the field of vision is found contracted and is apt to be more so on the nasal side. In others it will be concentrically contracted, of dumb-bell shape or irregularly contracted. The color-fields do not show any disproportionate shrinkage as they do in cases of optic atrophy from other causes. Excavation of the optic papilla is the most marked and the pathognomonic objective symptom in chronic glaucoma. It is rarely absent when the patient is first seen by the oculist. The excavation involves the entire or almost the entire surface of the papilla and attains a considerable depth. The sides of the pit are deep and at times overhanging so that the vessels of the retina disappear from view as they pass up the side of the pit. They are crowded to the nasal side of the pit and are seen to make sharp bends as they pass from the pit into the surrounding retina. It is impossible to get the vessels at the bottom of the pit and on the edge of the pit into proper focus at one time, appearing lighter in color and blurred in outline in one or the other of these localities. This pitting is brought about by the recedence of the lamina cribrosa, the weakest point in the ocular tunic. In contradistinction to inflammatory glaucoma the simple form is not infrequently seen in the young man and may occur in myopic or near-sighted eyes which latter never develop inflammatory glaucoma.

Diagnosis.—A rapid increase in presbyopia with periods of poor vision should arouse the suspicion of the physician. The acute form of glaucoma is most frequently mistaken for iritis. The pupil is larger than normal in glaucoma, and smaller than normal in iritis, but unfortunately iritis soon supervenes in a case of glaucoma, causing the pupil to contract. If iritis is secondary to rise of tension the cornea will appear steamy, as glass breathed upon, but remains perfectly polished in primary iritis. This fact can be easily ascertained by having the patient face a window and noting its reflected image from the cornea. If there is a steamy cornea the reflected image will be seen poorly; furthermore, the eyeball is hard, the anterior chamber too shallow and the cornea insensitive to touch with a wisp of cotton. In the chronic forms of the disease one nearly always notices that the pupils are rather larger than normal for the age of the individual. Elderly people have small pupils, but if they have glaucoma even in strong light the pupils may be as large as a child's. Finally the ophthalmoscope reveals the telltale pit of the papilla.

Treatment.—In 1856 Von Graefe advo-

cated iridectomy as the best means to combat increased intraocular tension. All are not agreed as to how this operation lowers tension. The more acute the attack of Glaucoma the more decided the relief afforded by it. Most ophthalmologists believe that iridectomy does good solely by affording better drainage through the infiltration angle of the eyeball, which has become occluded by advance of the root of the iris. The iridectomy is therefore made broad. Opposed to this are those who with Abadie believe iridectomy does good chiefly through giving rise to a vaso-dilatation of the canal of Schlemm. In the central portion of the iris running concentrically with the pupil is a nerve plexus which is supposed to act as a constrictor upon the vessels of the eyeball and Schlemm's canal and supplied by the sympathetic nervous system. This plexus is interrupted by an iridectomy and the drainage system thereby opened. Without doubt neither of these theories is the correct one. Every oculist is aware that there is another and more important factor. Even Von Graefe acknowledged that results after an iridectomy are better whenever the incision in the limbus, through which the bit of iris is excised, failed to heal accurately but cicatrized, giving rise to a pervious scar. Many make an effort to prevent early closing of this wound therefore. Latterly uncombined iridectomy has fallen into more or less disrepute as a cure for glaucoma. In a few cases it actually seems to do harm. Von Graefe estimated that about 2 per cent lose vision on account of an iridectomy. DeWecker says in 30 per cent it hastens loss of vision. In 40 per cent it arrests the disease, but does not improve the vision and it is entirely contraindicated in congenital traumatic and hemorrhagic glaucoma and in cases with much contracted fields of vision and in those in whom one eye has been unsuccessfully iridectomized. Next to iridectomy, sclerotomy is most often practiced, either anterior, that is anterior to the root of the iris, or posterior, that is posterior to the ciliary processes. The anterior or the vitreous chamber, as the case may be. is transfixed with a cataract knife and cutting outwardly the intervening tissue is severed save a narrow bridge. Such wounds soon close and tension returns. Professor Fuchs was the first to suggest that very frequently after an iridectomy some detachment of the choroid occurs and that infiltration of fluid takes place from the anterior chamber to the suprachoroidian lymph space or that between sclera and the choroid coat. Heine devised an operation to permanently establish this communication. A small incision is made as for an iridectomy with a spade knife, but farther back, behind the ciliary processes and then with a small spatula the ciliary bodies and the root of the iris are detached from the sclera by pushing the spatula forward and at the same time hugging the inner surface of the sclera. This operation is called cyclodialysis. It is indicated in simple glaucoma only. Winter establishes a fistula through the limbus by putting a non-absorbable cat gut suture seton through and withdrawing the suture after ten days. His results have been very favorable. Duering dissects up a small bit of conjunctiva and pushes it into the anterior chamber after the completion of the iridectomy to prevent firm healing of the scleral wound. Some incarcerate a piece of thread and others a bit of iris in the wound. All of these methods are vastly inferior to the operation of making a small and permanent opening with a punch or trephine. To Elliott belongs the credit of this procedure. The trephine used cuts an opening 1.5 mm. in diameter and is combined with an iridectomy or not according to the discretion of the operator. It is better not to do an iridectomy. The iris seldom becomes incarcerated in the opening or adherent to it; if it does one makes several radial incisions in the prolapsed portion instead of excising it. A hernia of the iris or of the vitreous, if the operation is done posterior to the ciliary bodies, does no harm. With the occurrence of the hernia the hypertony of the eyeball is decidedly and permanently diminished, till from a cosmetic point of view and on account of the tedious healing in cases of hernia of iris or vitreous it is better not to have a hernia occur. The trephine is entered just in front of the root of the iris in the usual case, i. e., unless one has a posterior glaucoma to deal with, made evident by the fact that the tension of the eyeball remains up after evacuation of the aqueous humour. Personally I very much prefer a punch to the trephine for

making the opening in the eyeball. One blade of the instrument works through a fenestra in the other or lower blade which is shaped like a small spade knife. After one elevates a flap of conjunctiva an opening is made with a keratome, this punch is then introduced a greater or less distance (according to size hole desired), and a bit of sclera-cornea removed, either from the center of the incision, or a bit from either end. The same method is followed in case the vitreous chamber is tapped.

Medicinal Treatment.—First of all do not instill any mydriatic agent. So many of our otherwise up-to-date general practitioners and surgeons seem to think that atropine is a balm for all eye diseases or that every red eye is a case of iritis, for during the last year alone I saw no less than ten cases of glaucoma treated with atropine to the utter destruction of sight. If the intraocular tension is elevated, the cornea steamy or the pupil larger than normal ,use miotics, preferably eserine sulphate solution (gr. 1-2, gr. 2 per oz.). How is the general practitioner with all he has to know and to do ever to become proficient in ocular palpation? I do not mean that the general practitioner should be able to treat cases of glaucoma, but he should know how to preserve the eye sight until the patient can reach a competent oculist. Even if the case should be one of iritis, eserine would not do the irreparable harm that atropine does in a case of glaucoma. Eserine should be used frequently enough to keep the pupil contracted (every hour or so, may be), and the eye treated to a hot bath for fifteen minutes subsequently.

Aspirin, grs. 10, every two hours relieves the pain and empirically relieves the tension. Medicinal treatment should not be relied upon in any case, as all sufficient, but an operation sooner or later performed.

1102 *West Lafayette Ave.,*
Baltimore, Md.

Every time they look in my mout'
They try to take my whole tonsil out;
It makes no difference if its function's in doubt,
They gotta quit taking my whole tonsil out.
—Dr. Joyce in Texas Med. Jour.

THE TOXEMIA OF PREGNANCY, WITH SPECIAL REFERENCE TO ECLAMPSIA.

A. Vida Weinberg, M. D., Wheeling, W. Va.

(Read at Annual Meeting of the W. Va. State Medical Association, May 21, 1913)

With the more recent investigation of the toxemia of pregnancy it has been quite definitely determined that the kidneys are less responsible than was formerly claimed. There is a disturbed protein metabolism due to some toxic substance, the exact nature and origin of which have not been determined. The appearance of eclampsia in cases of vesicular mole would indicate that the fetus is not essential to its development.

Efforts to obtain a toxic substance from the placenta have given negative results. The toxic substance, presumably a ferment, has an autolytic action on the tissues of the body, more especially the liver. In this organ there is early capillary thrombosis, especially marked in the periphery of the lobule, with destruction of liver cells and marked tendency to hemorrhage. All the other organs may be involved, usually to a less degree. We are dealing here with a generalized intoxication. When the kidneys are markedly affected by this toxin, albumen and casts appear in the urine. It is not a localized process in the kidney like that present in acute nephritis. The eclamptic seizure, while resembling uremia, is probably of entirely different origin. The disturbance of partition in the urinary nitrogen, lessening of the urea nitrogen, and increase in ammonia nitrogen may be of assistance in differentiating the toxemia of pregnancy from acute nephritis. Many cases of eclampsia fail to show evidence either clinically or by autopsy, of renal involvement.

Zweifel has aptly called puerperal eclampsia the disease of theories. Spiegelberg in 1870, averred that the circulation of ammonia carbonate in the blood was responsible for the seizures, but chemical analysis has failed to substantiate this. The Traube-Rosenstein theory, that convulsions were the result of oedema of the brain secondary to a general hydremia, is false, because most eclamptics are full blooded.

Bouchard suggested a more likely cause,

namely, auto-intoxication, resulting from a retention in the system of toxins which should be excreted by the kidneys. Tarnier and his pupils sustained this theory by showing that the urine of patients suffering or about to suffer from eclampsia was less toxic than usual, while the blood serum was much more so. They concluded, therefore, that this retained unknown poison in the blood serum was responsible for the lesions.

A recent hypothesis is, that the toxin has its origin in the fetus. In support of this supposition is the fact that convulsions are first observed when the fetus has reached a certain size, exceptionally rare before the fifth month, that eclampsia occurs more frequently in the presence of toxins, and that the death of the fetus during labor favorably influences most markedly the course of eclampsia. In summing up the etiology of eclampsia today, it may be held that it is the result of an auto- intoxication, which is probably metabolic in character, but we do not know whether the change originates in the maternal or the fetal organism or in both.

The diagnosis of eclampsia scarcely, however, presents any serious difficulty. This is true even after the eclampsia simulates in itself an epileptic attack, as the history of the case and the further course of the affection clears up the matter. Epileptic seizures recurring for the first in parturient women is extraordinarily rare. Hysterical convulsions are also very rare in pregnant women. They look different and run quite a different course from eclampsia. The eclamptic coma can be confused with certain poisoning, as for example alcohol and morphine, also with apoplexy which does occur during labor, and which can produce similar symptoms, but which can be diagnosed mostly through bilateral paralysis.

The prognosis of puerperal eclampsia is a very serious one, since 20 per cent of the mothers succumb to the disease and the mortality of the children reaches about 50 per cent. The maternal mortality may be considerably reduced through a rapid delivery. If one succeeds in delivering a woman shortly after the first attack the mortality can be reduced 5 per cent.

In individual cases the severity of the toxic symptoms stands ordinarily in exact relationship to the degree of functional disturbances of the kidneys. Severe, prolonged attacks, deep coma arising early, that is, after the first attack, complete anuria, and prolonged high temperature are unfavorable signs. Entirely unfavorable are those cases in which the pulse, at first full and strong, becomes soft and very frequent and oedema of the lungs makes its appearance. In general, however, the termination of labor has a markedly favorable influence upon the disease. Convulsions which break out first in the latter moments of the period of expulsion are correspondingly less dangerous than those which appear at the beginning of labor during pregnancy. Eclampsia during puerperium has a relatively unfavorable course.

Treatment.—The early recognition of toxemia is very important. When advanced to the point where convulsions develop the results of treatment are much less favorable. Headache, restlessness, high blood pressure, albuminuria, casts and increased ammonia nitrogen in the urine may be taken as evidence of the intoxication. The protein food should be reduced to a minimum and increased elimination through the kidney, skin and bowel be secured. The diet should consist of milk not to exceed a quart, and cereals or cooked fruits. If there is no oedema, the kidneys should be thoroughly flushed by free water drinking. When full-blooded, venesection, withdrawal of a pint, followed by transfusion with normal salt solution should be tried. Free sweating is always indicated, and until the symptoms are alleviated the patient may take two good sweats daily. The bowel elimination should be increased by the use of saline cathartics. When, in spite of this measure, the intoxication increases, the uterus should be emptied.

Stroganoff has employed the following method of treatment of eclampsia with good results The patient is isolated in a quiet, darkened room. The convulsions are controlled by the use of morphine hypodermically every two or three hours. In addition chloral hydrate, 10 gr. in milk every hour until five or six doses are given, and if convulsions still tend to appear they must be controlled by chloroform. The patient should inhale oxygen

freely. Elimination is increased by free water drinking and sweating. As a rule within twenty-four hours after such a treatment is begun, labor sets in. When the symptoms do not abate within twenty-four hours, labor must be induced, or the uterus emptied by Caesarean section.

Stroganoff lays much stress on keeping the patient quiet, and as free from pain as possible.

Regarding the child, whose life is greatly endangered by eclampsia, one need give but little attention. Everything depends upon rescuing the mother. If with the outbreak of convulsions during pregnancy or at the very beginning of labor when the soft parts are entirely unchanged, as for example in women pregnant for the first time where the os is completely closed and the cervix retaining its own length, delivery may be accomplished through vaginal hysterectomy. With rupture of the membrane pain may set in and increased so that artificial delivery may be accomplished in a short time. The Vaginal Cesarean section in the presence of a good pulse and a good general condition offers the best outlook for recovery. Abdominal Cesarean section is far more dangerous than the vaginal operation. The vaginal operation may be carried out easily in a few minutes and the delivery terminated simply through version and extraction.

Green, in his last article on the treatment of toxemia of pregnancy with convulsions, argues that the toxemic woman is illy prepared to resist the shock and trauma of any surgical procedure, and that in most cases surgical measures should be postponed until by active eliminative measures the toxemic gravida is better prepared to withstand the added strain of delivery. He believes conservative treatment would save many women who are lost by hurried delivery. He would resort in desperation to emptying of the uterus by forced cervical dilatation or vaginal Caesarean section if in a reasonable time all medical measures fail.

Green's method of treatment is essentially as follows: First, a high compound enema.

R. Oil of Turpentine.....dr. 1
Extract of Aloes .....gr. xx
White of an agg.
Sulphate of Magnesia.....oz. 2
Glycerin .....oz. 2
Water .....oz. 2

Next the patient is given a hot water immersion bath. One may use a hot pack or dry heat. An ice bag is applied to the head. After the bath, the patient is wrapped in blankets and put to bed. If the patient is comatose, the stomach is washed out and there is left in the stomach 8 ounces of water with 2 ounces of epsom salts, or a like amount of castor oil and two drops of croton oil; if conscious she can swallow the cathartic.

Salt solution under the breasts may be used, and except with marked oedema, fluids may be given freely. Nitroglycerin in 1-100 gr. doses may relieve blood tension and promote diaphoresis.

The author reports ten successive cases, one of which was a case of twins, in which five babies were discharged well, and six were still-born, including three macerated foetuses; all the mothers recovered.

In 1904, Kronig employed lumbar puncture with apparent beneficial results. As there is a decreased cranial pressure (from 500 the normal, to 120), this would secure a rational procedure.

Veratrum viride is at times markedly beneficial, but by no means a specific.

As noted above, a rational treatment of eclampsia is impossible until a more accurate knowledge of the causative factors is obtained.

Original Abstracts.

THE RATIONAL USE OF SALVARSAN.

S. C. Cherry, M. D., Clarksburg, W. Va.

The number of recorded fatalities following the use of salvarsan is close to two hundred. Compared to the number of injections given, the ratio is one in two hundred. The number of cases, adversely but not fatally affected is not known, and will not be known until every physician makes up his mind to report any notable untoward result he encounters. Salvarsan is too good a drug to be discredited, but a proper study of both its good and bad effects is necessary in order that it and other agents may be used in syphilis with the best hopes of success.

To date the untoward effects of salvarsan may be classified as follows:

1. Minor accidents, such as nausea, vomiting, headache, temporary cardiac disturbances, fever, etc., come on soon after the injection and rapidly subside. They are probably due to the direct action of arsenic, though some would lay the blame upon the water used, since they claim that most of these disturbances do not occur if freshly distilled sterile water is used in the preparation of the injection.

2. Acute arsenical poisoning may supervene soon after the injection. Lesions similar to those of experimental arsenical poisoning are found in the kidneys, liver and brain. In some autopsies a hemorrhagic encephalitis only has been found. It is believed by some that these cases would not have succumbed had the dose of salvarsan been smaller.

3. An injection of salvarsan kills practically all spirochetes which are accessible. If a large number of these are killed in one place, the endotoxins set free may cause enough congestion and swelling to give rise to clinical symptoms. This is the Herxheimer reaction. If the process occurs in nerve trunks or in the brain or where pressure is not well borne more or less acute symptoms arise, such as paralyses, etc. Such symptoms come on within two or four days after an injection.

4. After an injection of salvarsan a few spirochetes may still be alive, hidden away in some inaccessible corner, most frequently in some portion of the nervous system. Most of the other spirochetes have been killed off, but here we have to deal with a situation that is unlike one following the use of mercury. Mercury represses the spirochete and raises the immunity of the body, while salvarsan simply acts upon the spirochete; hence it follows that any spirochetes left behind will find it easier to set up either a local lesion or a distant one or both.

The fact is gradually but surely crystalizing that recurrences are more frequent after salvarsan than after mercury. Many believe that unless all spirochetes are quickly killed off the nervous system is weakened directly by the arsenic and rendered more susceptible to recurrences.

We have then to remember that salvarsan will not cure syphilis unless it is used right after the appearance of the initial lesion. It cannot be stated definitely how many doses may be necessary for this. Given a case with secondary symptoms present we must bear in mind that it is not without immediate danger; that its use alone will probably not cure the disease; that after it, recurrences are more frequent and that recurrences in the nervous system are materially favored by it. On the other hand it is the best symptomatic remedy at hand and its action is often truly marvelous. We can use it with great benefit, but how to manage so that we can rapidly suppress symptoms, keep the patient in good shape and finally free him from spirochetes, is a matter of using old means as well as new. We must use mercury and hygienic measures, and we must teach the patient what he must contend with.

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*"Two and One-Half Years' Experience with Salvarsan and Neosalvarsan." W. T. Corlett, Journal American Medical Ass'n, Sept. 20, 1913.
"The Present Situation in Syphilis." W. A. Pusey, American Journal American Sci., Oct., 1913.

STREPTOCOCCI THE CAUSE OF ARTHRITIS DEFORMANS.*

S. C. Cherry, M.D., Clarksburg, W. Va.

Arthritis deformans, according to Billings, includes three prevailing types; the hypertrophic, the atrophic and the spondylitis deformans. They may all be chronic from the beginning or commence acutely and become chronic. All three types are due to a streptococcus infection, the organism being carried to the affected joints from some previous focus of infection somewhere in the body. Davis and Rosenow, studying the tonsils removed from such joint cases, constantly found a special form of streptococcus deep down in the tonsillar crypts. Nearly every streptococcus isolated, produced, when injected intravenously into rabbits, chronic arthritis resembling each of the three types mentioned. At the same time by modifying these organisms culturally, they were able to produce forms having a special affinity for the heart, or the muscles, or the joints. That this form of streptococcus may undergo transmutation in cultural and pathologic properties has not been known before and

serves to explain why various workers have found apparently different forms of streptococci. It will be remembered that Poynton and Payne found regularly in acute inflammatory rheumatism, a diplococcus. This is identical with the streptococcus found by Davis and Rosenow. The streptococcus is rarely found in the inflamed joints after the first three or four days. After this period, even in experimental animals, the joint fluid is sterile.

Given a case of arthritis, how is it best treated, according to these findings? First, the physician must thoroughly examine his patient and seek to find the primary source of infection. This is usually in the tonsil, less frequently in the gums, teeth, ear, appendix, gall bladder, prostate or seminal vesicles. When found it should be treated vigorously. At the same time the general health of the patient should be improved by rest, diet and hygienic measures best suited to the case. The only specific treatment so far available is the use of an autogenous vaccine prepared from the primary source of infection, or from the joint fluid itself, if possible. In advanced cases with deformity and muscular contractions surgical measures may restore function.

These findings should constitute a step forward in preventive medicine. A local infection anywhere in the body that is not removed is a seed that may some day bear a rich harvest. Get rid of it quickly.

*Review of articles in Journal Amer. Med. Ass'n, Sept. 13, 1913, Sept. 6, 1913, and Interstate Med. Jour., Sept. 1913.

Selections

TO THE YOUNG PHYSICIAN.

By R. B. Hopkins, M. D., Milton, Delaware.

For a young physician to get an early start in practice, the best place is a small country town in a good surrounding farming community. In about a month, every man, woman, and probably the children will know him as the new or "young" doctor. I have always had a fondness for the young doctor—I can recall when I was one myself. He needs the help and advice of the older physician, provided he will accept it. My experience has been that the young man is soon in demand by a class of patients who are largely in debt to the older physician and when the young doctor prseents his bills he will find his clientele diminishing in proportion to his insistence for collecting. After being in active practice for three years and upon inquiry of an older and experienced physician, when a doctor should receive remuneration for his services, received the reply: "Young man, you do not need money as much as you need experience." But after faithful and conscientious service, the community will gradually appreciate and begin to respond financially. Building up a practice on a sound foundation is the only assurance of success. Never stoop to low and unprofessional tricks to gain practice—the people will eventually find you out and you will merit the disgust and contempt of your fellow practitioners. The treatment the young doctor extends to older physicians will prove a potent factor in his acquiring a reputation. Let the young man feel that the established doctor is his friend and treat him so—here then should be a reciprocal feeling and the older physician should extend a hearty greeting to his new competitor—for he soon will be a competitor in the fullest sense of the term. The older physician will soon learn that some of his best patients will forsake him. Let him prepare himself and accept the change gracefully, and concede to every man the right to make an honest living. It will require a great deal of self-control on the part of the older physician, to see patients whom he has treated for many years turn to the younger man. And when he recalls the sleepless nights he has spent by their bedsides, how he has braved blinding snows and summer suns in order to administer to their needs, in many cases to have actually been the instrument in saving their lives—then to be unceremoniously and perhaps harshly turned down for the new man. It requires a large percentage of grace—yet it will always be just so.

The young doctor will assist himself largely by giving the community to understand that they cannot, over his shoulders, treat an older and honorable physician with disrespect. Should he lend himself to such dishonorable acts he will find the ball will

soon rebound upon himself. There should be a kind, reciprocal feeling between the two—and it will be so, provided all business and professional dealings are carried out in a true brotherly spirit. I claim there are no medical ethics beyond being a gentleman under all circumstances.

The reputation of being a cheap doctor does not enhance the young physician's standing or his success—cutting prices below the established schedule, visiting homes uninvited, soliciting patronage is a detriment. This I have often known to be the case.

And while inebriety was once overlooked in many homes, the people of today are educated and realize that a sober man with all his faculties intact does not know *too* much.

Though the building up of a practice in a small town can never amount to any great achievement financially, yet one can gain a livelihood and by economy save a few dollars for the rainy day.

A hearty co-operation with the older physician, working together will be a help to each, both professionally and financially. There are operations done today in hospitals in the larger cities that could have been done in the country town but for the jealousy among the physicians. Let the young man remember this.

Magnifying the ills of your patients and arriving at a hasty diagnosis are to be guarded against. A young physician came into my office on a hot summer day, very much excited, requesting me to come at once to his office—he had a patient with strangulated hernia. Upon my arrival I found an old colored man—once a patient of mine—who had a hydrocele which I had tapped several times. The doctor had been trying for more than an hour to reduce it by taxis. If in doubt of your diagnosis call to your aid an experienced physician. When you find people growing restless and becoming dissatisfied with your treatment suggest a consultation or resign the case. It is better to discharge yourself than be discharged.

Don't give up too soon a seemingly hopeless case—nature with slight assistance will oftentimes accomplish wonders. Be a fighter against disease—people will appreciate your pluck. Do not suggest operations on old people unless absolutely necessary to prolong life—they oftentimes live longer without them.

Establish a reputation for honesty. Be honest to your patients, honest to yourself. One of the greatest temptations to the poor young physician is the glitter of gold for questionable services.

Beware of women. Building a practice is the work of a life time; do not mar it in the beginning.

Building up a practice is somewhat like an *ignis fatuus*—"now you see it—now you don't." There are so many complications entering into a physician's business life that there is little certainty of anything permanent. Someone of a large family connection will take offense at some imaginary wrong and the whole family will raise up in arms against you. You compel a delinquent debtor to pay a bill, you not only lose his patronage, but many of his friends. Should you attend church regularly the congregation will construe it as mercenary, should you fail to attend you will be classed as an infidel Should you or your wife call socially you are courting patronage, should you not—you are distant and unsociable. Should you seemingly make frequent visits to your patients it is for the purpose of running up a bill—should you not—you are careless and neglectful. Building up a practice requires not only the knowledge of your business but much tact and diplomacy. If you are looking for financial success you are in the wrong business If you have the desire to study and cure disease, you have a large opening before you. If your one great desire is to be of benefit to your fellow men, to lead them into a better life, to protect them from disease and the charlatan, remember the greatest physician who ever lived—when he wished to do the people good, to lead them into a better life—they crucified him on a tree.

Personal appearance and individuality go further oftentimes than efficiency.

There is always an undercurrent in every physician's life which he must strive to overcome in order to stay on the surface. It is a continual fight, socially, financially and professionally.

Today you start on your regular visit to see four patients. At your first call you are informed they have sent for Dr. Smith and your services are not "wanted." Crisp,

short and to the point. You relish the tartness of the dose, but do not appreciate the mode of administration. Take your medicine like a man—how big do you feel now? Your second case was one in which you called into consultation Dr. Louis. He promised to meet you again at 10 p. m., but upon inquiry you find Dr. L. called at 9 o'clock, prescribed for the patient and the family was so much impressed with him they decided to retain *his* services exclusively. Medical ethics? Say, where is your fishing rod—let's go fishing. For the remaining patients upon whom you were to call you sneak in at the back door for fear they will elude you or someone may see you enter the house.

Why physicians should receive such treatment from their patients and fellow physicians has always been a mystery to me. There is no other class of professional men who are subjected to such insults. Let the young man who enters the profession remember he must learn to be "patient and long-suffering," learn to become callous to indignities, look straight ahead and follow Paul's injunction, "press forward to the mark of his high calling."

No profession seems more handicapped than that of medicine. You meet with opposition at every turn of the road. There is the patent medicine monster, the fake advertiser in the daily papers, and others too numerous to mention. The unprincipled physician who will stab you at the first apportunity. Your patrons will follow after these false gods, regardless of your warnings and advice—and you will find a large proportion of seemingly intelligent people taking stand with them against you.

There is little, if any, attraction to the young man, so far as I can see, to devote himself to medical practice. In fact, the man who enters the ranks outside of a college or hospital connection has a hard road to travel.

You are no better than he, and while you may never have to submit to such a death, there are other ways in which you will be placed on the rack and submitted to mental if not bodily tortures.—*The Medical Review.*

ALCOHOL IN DIPHTHERIA.

A. Jacobi, M. D., New York.

(From an article on Alcohol Medication in American Medicine we extract the following)

A few stray specimens of my observations are as follows: With one of my most respected colleagues I saw thirty-five years ago a boy of 5 years. Membranes covered his fauces and mouth and part of the lips, and were visible in the nares. Round the neck were big lymph body swellings, now known to all of us as the sure proof of thorough mixed infection. Some membranes could be removed by forcible injections into the nose. It had been bleeding and oozing, the odor was foul. The second heart sound still slightly perceptible, pulse 160, hardly felt at the wrist. Boy restless in his semi-coma, tossing about, feet bluish, not cold, covered with erosions and subcutaneous hemorrhages of different sizes. His whole surface discolored, from drab to blue; hemorrhages small and large in and under the skin. No intestinal hemorrhage. Urine could not be obtained. My friend told me I was not called by him but by the family of the dying boy; he was going down town and on his way would order the undertaker to send the coffin after dark. I begged him not to do that, but to wait until tomorrow. The undertaker, however, came after dark and left disgusted. Meanwhile I had permission to act. The boy's stomach retained my whiskey, from one to two teaspoonfuls every fifteen or twenty-five minutes, diluted in water, occasionally in milk or coffee, and his rectum retained a few doses. Within a day he took a pint and a half, perhaps more. We kept on, the boy and I. He was alive when I happened to meet him twenty years afterwards.

A girl of 7 years I found in about the same condition thirty years ago. She was a patient of one of our great physicians who when he died suddenly a year ago, proved to the world that there are some men who are indispensable. He said, "now here I have given your whiskey, but she will die." How much is she taking? "Besides her other drugs she is taking as much as half a pint each of these two days, and retains it." Very well, just continue, and I will give her my additional half pint. So

we did, she took a pint or more daily. And got well.

A boy of 3 years with the formidable symptoms of mixed infection was "given up." I held out the hope of recovery provided the doctor would succeed in getting into him with other appropriate medication, at least a pint of whiskey daily. He did succeed. Five days afterward the father called in despair, saying his child was alive but insane. So he was. The boy was better, in fact, on the way to recovery, but *drunk*. To me that was a welcome occurrence, for I knew, and want my readers to know, that *no amount of whiskey will lead to intoxication when its effect is wanted to combat sepsis*. I repeat: No amount of alcohol will intoxicate a thoroughly septic person. As soon as my little patient did no longer require his big dose of alcohol, it made him "insane," intoxicated. I had enjoyed that experience before, in many cases, and have since. May be my first case of the kind was that of a refined lady who had typhoid fever fifty years ago. I learned the alcohol practice from Dr. Ernst Schilling, who sixty years ago treated many hundreds of cases of typhoid and typhus amongst the immigrants on Ward's Island. My lady patient, thoroughly septic, took a quart of whiskey daily ten days in succession until the beginning of her recovery; no other drop since.

I want these specimens of alcohol treatment to suffice for my purpose, which is to make facts tell their stories. My cases of thorough sepsis relieved or cured by alcohol extend over more than half a century. My cases have not all been cured, I belong to the class that has to meet failures. But I have seen what was considered hopeless to take a favorable turn. There are in diphtheria cases which are not influenced by antitoxin in small or big doses. That class of cases is not always hopeless when the doctor has hope and discrimination and the courage to fight infection and to cheat the undertaker. I refuse to deal in theories. I cannot tell the cause of the antiseptic action of alcoholic beverage when administered in sufficient doses. I merely refer to occurrences and observations extending over half a century and more. Let somebody else explain. Meanwhile take the hint.

MEDICAL ETHICS UP-TO-DATE.

1. If called by night to attend a stranger at a distance, dress quickly and go, never stopping to ask who wants you, or if the bill will ever be paid, lest you be counted inhuman.

2. Never ask how many doctors are in attendance in a case, or how many kinds of patent medicines a patient is taking. Such curiosity on the part of the doctor is vulgar.

3. Never insult a stranger by asking for credentials, nor a patient by asking for money—pounds and shillings are the vernacular of bankers, lawyers, tradesmen, and "workers."

4. Never send a bill; patients will think you are hard up, but pay *your* bills promptly. Send a check, it looks better.

5. In writing a prescription write illegibly. It does not matter. The druggist will put in "something just as good."

6. Be sure to mention the fact of your being overworked, and also cholecystitis, appendicectomy, opsonic index, operative work, toxaemia, words which impress the laity. Your wife must tell her friends how busy you are.

7. When going by a patient's home slip in socially and tell her of some interesting case, or some operation you have just performed, and incidentally mention how busy you are.

8. Never be friendly with any other doctor. It's unethical. If you think another doctor makes a guinea more a month than you do, cut him dead.

9. If another doctor's name is mentioned in your presence, compress your lips, and the patient will understand that your hypertrophied good principles keep you from telling the truth, the whole truth, and a few other things. Do not have your principles so high you can't reach them.

10. If called in after another doctor has been treating a case of meningitis, make your diagnosis "inflammation of the brain," and be sure to say how much better it would have been had you been called in earlier.

11. It is understood that you would not interfere with gestation, but it is well to tell of the large sums of money you have been offered and refused.

12. If the other fellow does not think

as you do, it proves his inferior intellect.

13. Jealousy and envy are the tributes paid to superiority.

14. Do not expect the "glad eye" when you give the "cold shoulder."

15. We have not enough "skin specialists" in the profession to offset the "wasters" in the laity.

16. Try not to have views. They are distressing—especially to others. If you must think, do it as quietly as possible.

17. Pretend that you are more skillful and proficient than others, and people will soon take you at your own estimation, especially if you can raise a small band of touts and claquers.

18. Endeavor to like each other, but if you can't—dont'—*New Zeeland Medical Journal.*

KAMPERMANN: A Study of Two Hundred and Twelve Cases of Cancer of the Uterus, with Especial Reference to Early Diagnosis. *Am. J. Obst.*, N. Y., 1912, lxvi, 596. By Surg., Gynec & Obst.

Kampermann has studied the 212 cases of uterine cancer which have occurred in the university and private clinics of Dr. Reuben Peterson, and comes to the following conclusion:

1. Cancer holds fifth place as a cause of death in Michigan.

2. The death rate due to cancer during the last five years has increased 15 per cent, while the death rate due to tuberculosis has decreased.

3. Among gynecologic patients, one in every 25 has cancer of the uterus.

4. Five-sixths of uterine cancer is primary in the cervix; one-sixth in the body.

5. The age limit is from 28 to 75 years, average being 48 years.

6. Carcinoma of cervix is more frequent from 35 to 45 years of age; carcinoma of the body between 45 to 65 years of age.

7. Carcinoma of the body develops over a longer range of years than carcinoma of the cervix.

8. Patients with cancer of the cervix give a history of child-bearing in 92 per cent of all cases; with cancer of the body in 72 per cent.

9. Though more carcinoma in parous women, carcinoma of the uterus may develop in nulliparæ.

10. Heredity has very little part in the development of uterine cancer.

11. Carcinoma of the uterus can be cured by operation in early cases.

12. The early diagnosis of carcinoma of the uterus depends on giving close attention to the earliest symptoms. An increase in the bleeding in a woman approaching the menopause demands a careful investigation and a microscopic examination of tissue from the cervix and body.

13. The first symptom in 73 per cent of cases is an increased menstrual or an irregular intermenstrual discharge of blood.

14. Watery and foul discharge and pain are sumptoms occurring at a later stage of the disease.

15. Carcinoma of the uterus occurs in many healthy and robust looking women. Cachexia occurs only in advanced stages of the disease.

16. The radical abdominal operation offers the only absolute cure for carcinoma of the cervix.

17. Carcinoma of the corpus can be cured by a less radical operation. In inoperable cases, temporary relief can usually be secured by a palliative operation.

18. Most of the patients afflicted with this disease die either from some terminal infection or from uræmia.

19. To obatin early diagnosis, the profession as well as the laity must be educated.

20. All women must be taught that the menopause means lessened flowing, and that an increase at this time may signify disease.

21. An organized campaign of education is necessary if more patients are to be saved from cancer in all its forms. N. SPROAT HEANEY.

ANTI-INFLUENZAL SERUM.—The Rockefeller Institute for Medical Research has succeeded in making an antiserum to be used in the treatment of influenza meningitis. The evidence obtained from experiments in monkeys indicates that the earlier in the course of the disease the injections are made, the better the results will probably be. Hence should film preparations prepared from the first fluid obtained by a lumbar puncture contain gram negative bacilli, an injection of the serum should be made immediately without waiting for the culture test. Should the diagnosis be left in doubt or the disease later prove to be of another nature, no harm will have been done by the injection of the serum. The quantity of anti-influenzal serum at present available is limited.—*Bulletin Med. and Chir. Faculty of Maryland.*

HEMATINICS HYPODERMICALLY IN ANEMIA OF CHILDREN.

The author concludes:

1. In the hypodermic injection of hematinics we possess a quick, safe and reliable means of treating the anemias of childhood.

2. A combination of iron and arsenic compounds seems to have a better effect than either alone.

3. Small doses of each give as good results as large ones.

4. The tonic effect is noted almost immediately after beginning treatment.

5. The injections should be made deep in loose tissue.—H. LOWENBURG *in American Journal Diseases of Children.*

The West Virginia Medical Journal

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WHEELING W. VA., NOVEMBER, 1913

THE JOURNAL is issued on the first of each month.

Subscription,	$1.00 per year
Single Copies,	15 cents

All communications to this Journal must be made to it exclusively. Communications and items of general interest to the profession are invited from all over the State. Notices of deaths, removals from the State, changes of location, etc., are requested.

Our readers are requested to send us marked copies of local newspapers containing matters of interest to members of the medical profession. Name of sender should be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer.

ADVERTISEMENTS.

Advertising forms will go to press not later than the th of each month.

Advertisements of proprietary medicines must be accompanied with formulae. Rate cards sent on application.

REMITTANCES

Should be made by check, draft, money or express order or registered letter to Dr. S. L. Jepson, Ch'n of Pub. Com., 81 Twelfth Street, Wheeling, W. Va.

Editorial

TO HEALTH OFFICERS.

The State Board of Health will hold a two-days' session in Parkersburg, November 28th and 29th. One-half of the County Health Officers will be expected to be present as required by the new law. All municipal Health Officers are urged to be present. An interesting program including a public meeting, is in course of preparation, and it will be sent to all County Health Officers whose presence is required, namely, those who can most conveniently reach Parkersburg; and to municipal officers whose addresses reach us. A similar meeting will be held in Charleston, perhaps in May next, which the officials from the remaining counties will be expected to attend. *Sec'y State Board of Health.*

BABIES IV.

In further considering the subject of infant mortality from diseases of the nervous, respiratory and digestive systems, it might be well to recall to mind, as was shown by a table in a previous number of the Journal, that of the total number of deaths from the first of these groups, 83 per cent were caused by meningitis and convulsions; from the second, 94.6 per cent were due to bronchitis, broncho-pneumonia and pneumonia; from the third, 87.7 per cent were from diarrhoea and enteritis, making up a total of 80,579 due to these half dozen diseases, only a small fraction less than 46 per cent of the entire total of deaths from all causes up to 2 years of age. It is very probable, nay, almost certain, that whatever success we may achieve in reducing infant mortality will depend upon our success in dealing with the few diseases selected for mention out of the above named groups. As to the first two, meningitis and convulsions, it is not unlikely that many deaths attributed to them ought in reality to be accredited to the other two groups. Meningitis is so often a terminal complication in the broncho-pneumonias and pneumonias of children, and convulsions so often a terminal condition in that complication, as well as in meningitis itself, besides being so often a complication in intestinal and digestive disturbances of infants, that it is small wonder that confusion and inaccuracies should creep into any classification of deaths where convulsions are present. Because of this probability, it would not be unreasonable to transfer a considerable proportion of these deaths, insofar as ultimate causation is concerned, to the second and third of these groups, and confine the further discussion to these latter. Prophylaxis must, of course, play the principal role in dealing with these. In the respiratory group, much will depend on proper clothing, proper as to quality and quantity, according to the seasonal changes, and especially the sufficiency of protection during the winter months. The prevalent practice among the very poor, of substituting confinement in stuffy, ill-ventilated rooms, often inadequately warmed, often overheated, for free ventilation and fresh air, in order to economize in the matter of extra clothing for the baby, is a fruitful source of pulmonary troubles, in addition to the generally depressing effect on the vital powers. Now, while we must condemn this practice on sanitary grounds, we must consider and allow for the hard necessity of it as an economical measure. Fuel and clothes cost money. It is easy to

point out that the baby lacks sufficient clothing, that it ought to have more fresh air, and a better quality of food, and more of it perhaps, but when it comes to the task of administering the slender budget out of which these, as well as all the family necessities, must be provided, what then? Only the poor know what it is to be poor. If the scant supply of fuel will warm the room when the cold outer air is kept out, the baby can then be skimped in its apparel, and a little more be left for those who are compelled to face the out-door rigors. So the imperious demands of economy assert themselves, the warm, vitiated air is husbanded and the cold, clean air kept out. "Shut the door; you'll freeze the baby!" "Don't take the baby near that window, it will give it a cold!" Very likely, with its little bare feet and legs, and only a little thin slip for its body. The fuel that cooks the meals must supply the warmth for the indoor folk in lieu of clothes, and this warmth must be hoarded as the miser hoards his gold. And still, they catch cold, get pneumonia and die; 26,279 of them, out of every 176,680, that perish from all causes.

Next we pass to that other and still more fatal group, diseases of the digestive system. Here ignorance and carelessness have as great a share as penury and want in this "slaughter of the innocents." The food supplied, good in itself, perhaps, but through ignorance poorly prepared, faultily administered, ill-suited to the age or stage of development, or it may be even unfit altogether, too often fails in its office of furnishing the needed sustenance, or by the unwholesome products of a faulty digestive process, poisons the vital currents. Here ignorant carelessness and careless ignorance do their perfect work. Poverty, of course, many times is in the way of obtaining and properly preparing and preserving a suitable food supply, and when this alone is the reason, its hapless victims can only bow in pathetic and stony helplessness to the iron fate that despoils them of their little ones, a fate made doubly bitter by the realization that the sacrifice, but for their poverty, would not be exacted. But mainly, it is to be feared, ignorance and carelessness are most culpable in this matter. With stupid, stolid fatuousness, dirty, fermented milk, sour bread, tea, coffee, beer and all sorts of outlandish articles are indiscriminately fed to babies, almost from the time they begin to take notice. Diarrhoea and enteritis? Certainly! What else could one expect? Look at the toll in infant life that these conditions demand: 44,521 in every 176,680. As before stated, much, very much of this sacrifice is needless. How shall it be prevented? It is most gratifying to observe a marked awakening of interest in this matter on the part of both public and private organizations. Dr. Jacobi made it the theme of his presidential address before the American Medical Association, at Los Angeles, last year. In far away India its phases are being studied and discussed. As is meet and fitting, philanthropy directs her appealing entreaty for help, first and chiefest to the medical profession, to which, of necessity, all other helpers must look for knowledge and guidance. In the next and last of this series, we may indicate some of the things that the doctors can do, and some of the things that ought to be done. L. D. W.

The following is a sample application for a license to practice medicine in West Virginia:

"I am writing you for information relative to the practice of Suggestive Therapeutics, Known as Megnetic and Drugless Healin, A Profession which I have just completed, at the Weltmer College of Therapeutics, located at Nevada, Mo., and received my deploma.

"I would like to know if there is any Law prohibiting the practice of such a Profession in the state, if so kindly advise me of it.

"I applied for a License in the City of Wheeling and was informed that there was no License issued for such a Profession.

"I am only a poor young man starting out in life, and only want to do what is right, and that is the reason I have took the matter up with you, through the advice of an Attorney.

"Thanking you for an early reply,"

THE PROBLEM OF THE HOUSEFLY.

The common housefly is a universal pest. Not only is its presence annoying but it is also dangerous, for it can be a most efficient disease carrier. Flies are often present in such enormous numbers that it seems perfectly useless to attempt to get rid of them by any of the usual methods, and yet much can really be done if

consistent and unremitting effort be made. The use of wire screen fly-traps about the outside of the house and in the yards and stables will, in the course of time, have a surprising effect. Flies do not travel far, and several neighbors can, in about six weeks, be almost entirely free of the pest by simply screening over the usual breeding places and catching the flies in traps. Flies breed very rapidly and also die rapidly, so the effort should be to catch them before they lay the eggs and to screen the places where they breed. One fly will lay from a hundred to a hundred and fifty eggs, and these will pass through the larval stage and produce flies in about ten days' time. Fourteen days later these flies will themselves be laying eggs. In other words, it is possible for the eggs of the second generation to be deposited in slightly more than three weeks after the laying of the first eggs. The time is rapidly approaching when people will feel that the presence of flies about the house is a disgrace. The disappearance of the pest from a neighborhood, after the liberal use of wire screens and fly traps, has been noted many times. It is no longer an experiment. All one needs to make the home comfortable and free of this danger is a little knowledge on the subject, some energy and the co-operation of the neighbors.

Dr. A. P. Butt, the State Association secretary, desires to remind the members again, that it is time for them to be sending in their titles of papers which they expect to read at the coming meeting at Bluefield in May next. The southern end of the state has never had a meeting of the State Association, and yet the members down there are fully alive to the importance of cultivating medical societies, and have good societies themselves, and are a working body of men. Encourage them in their good work by making this meeting a great success.

A remarkable gathering took place recently at Stroudsburg, Pa. Nearly fifty men of over 80 years of age, all of Monroe county, Pa., sat down to dine together. The toastmaster was 87 years old. The dean of the company, Micager Weiss, was 112 years old, and it was said that he "bore a happy countenance." He enjoys remarkable sight and good hearing. He proved a veritable tonic and elixir for the other "old boys" who enjoyed their play day with him. This brings to mind the words of our Longfellow, in his well-known ode:

Cato learned Greek at eighty; Sophocles
Wrote his grand Oedipus, and Simonides
Bore off the prize of verse from his compeers,
When each had numbered more than four-score years;
And Theophrastus at four-score and ten
Had just begun his "Characters of Men.'
Chaucer at Woodstock with the nightingales
At sixty wrote "The Canterbury Tales."
Goethe at Weimer, toiling to the last,
Completed "Faust" when eighty years were past.

After which the editor feels encouraged.

We have a large number of Bulletins of the State Board of Health on "Diphtheria, "Consumption," "Disinfection" and "Typhoid Fever," which we shall be glad to send in any number "while they last," to any who apply. While intended primarily for the laity, they contain many facts that may do even the doctors goods, and we will appreciate it if they will aid in the distribution. As we have not written any of these, we are at liberty to pronounce them very good. Drop a postal card. It will bring them in any numbers wanted.

Harvard has established a School for Health Officers with the co-operation of the Massachusetts Institute of Technology. The object of this school is to prepare young men for public health work, "especially to fit them to occupy administrative and executive positions." Instruction will be given by lectures, laboratory work, and other lines. The students will be not only physicians, but graduates of colleges, or technical and scientific schools who have been grounded in chemistry, physics, biology, etc.

IN THE OPEN AT LAST.

A bill has been introduced into the Illinois legislature by Mr. Hurburgh to regulate objectionable advertising. It is aimed specifically at the "lost manhood" type of advertisement and makes such advertising a misdemeanor for which both the advertiser and the publisher may be punished. The bill has been favorably commented on by the decent newspapers of the state and has just passed the senate by a vote of 35 to 0. It is opposed, of course, by the quacks and those whose interests lie in that direction.

The American Association for the Study and Prevention of Infant Mortality will hold its fourth meeting in Washington, D. C., November 14 to 16. Some of the subjects to be discussed are "Eugenics, Pre-Natal Care and Instruction of Mothers," "Infant Hygiene and Feeding," "Vital Statistics and Social Betterment," etc.

MEDICAL PRACTICE ACT EFFECTIVE.

Governor Tener has signed the new medical practice act which becomes effective at once. It provides for a preliminary education of a year of college work each in physics, chemistry and biology, in addition to a standard four-year high school education. It also provides that the candidate for license must have completed at least a year as intern in an approved hospital before he is elegible to take the examination.

THE WATER SUPPLY OF RURAL COMMUNITIES.

The responsibility for disease due to polluted water is so often put on the water-supplies of our large cities that the conditions in American rural districts are usually thought of, if not actually pictured in the public mind, as almost ideal. Naturally enough, farms which are remote from areas of congested population seem to be ideally situated for obtaining wholesome water. In reality, however, deplorably insanitary conditions as regards the farm water-supplies prevail widely, if we may believe state and national government reports.

A large proportion of farm water-supply in the less hilly portions of the country where springs are not abundant comes from shallow wells, which are particularly subject to contamination. Deep wells are safer, but are not entirely free from danger of pollution. The chemist of the Canada Experimental Farms, Dr. Frank T. Shutt, concludes from an examination of several thousand samples of water used on farm homesteads in Canada that "probably not more than one-third of them are pure and wholesome." Investigations made by the Bureau of Plant Industry, in co-operation with the Minnesota State Board of Health, showed that of seventy-nine carefully selected and typical farm water-supplies in Minnesota, mainly well waters, twenty were good and fifty-nine were polluted, usually because of careless or ignorant management, and generally as a result of poor location or lack of protection against surface wash or filtration. The rivers, surface reservoirs and cisterns investigated were found to be polluted to such an extent that it is doubtful whether satisfactory supplies can be secured for household use from such sources. In an examination of the rural water-supplies in Indiana it has been found that of the private rural water-supplies examined, 177 were deep wells, 411 shallow wells, five ponds, forty springs, and twenty-seven cisterns. One hundred and sixteen of the deep-well waters were of a good quality, forty-five were bad and sixteen doubtful. But 159 of the 411 shallow-well waters could be used, 209 were unequivocally bad, and forty-three were of doubtful quality. A large percentage of the waters used by the families in which typhoid fever had occurred was unequivocally bad.

With the development of the country, the growth of the population and the greater congestion in living centers, the danger of pollution of natural water-supplies is vastly increased. Even wells can be improved and rendered less subject to pollution if proper methods of driving them deeper are employed. The best safeguard, according to *The Journal of the American Medical Association*, is the education of the public to the underlying facts of contamination so that by the application of common sense the sources of danger can be avoided by property-holders and others.

NUMBER OF MEDICAL STUDENTS IN 1913.

The number of medical students in the United States for the year ending June 30, 1913, was 17,015, a decrease of 2,771 below 1911, a decrease of 4,511 below 1910 and a decrease of 11,127 below 1904, when the highest number of students was enrolled. In fact, it is the lowest number since 1900. Of the total number of students, 15,909 were in attendance at the so-called regular colleges, 850 at the homeopathic and 256 at the eclectic colleges. The attendance at the regular colleges shows a decrease of 1,368 below that of last year and 2,505 below 1911. In the homeopathic colleges there was an increase of 23 above the attendance of 1912, but a decrease of 40 below the total for 1911. The eclectic colleges show a decrease of 52 below 1912 and a decrease of 177 below 1911. These figures are taken from the annual educational number of *The Journal of the American Medical Association.*

NUMBER OF MEDICAL GRADUATES.

The number of medical college graduates for the year ending June 30, 1913, was 3,981, a decrease of 502 below 1912, a decrease of 292 below 1911, and a decrease of 459 below 1910. The total this year is 1,766 less than in 1904, when the largest number were graduated. The percentage of graduates to matriculants was 23.4 this year, as compared with 24.7 in 1912 and 21.6 in 1911. The number of graduates from the regular colleges was 3,679, or 527 less than last year, 327 less than in 1911 and 434 less than in 1910. From the homeopathic colleges there were 209 graduates, or 24 more than in 1912, 57 more than in 1911 and the same number as in 1909. The eclectic college graduated 93, or one more than last year, but 17 less than in 1911 and 21 less than in 1910. Of the 3,981 medical graduates, 753, or 18.9 per cent, were reported to hold also degrees in arts or science, as compared with 17 per cent last year, 16.5 per cent in 1911 and 15.3 per cent in 1910. Of the 3,679 regular school graduates, 732, or about 20 per cent, were reported to have baccalaureate degrees, while of the homeopathic graduates, 20, or 9.5 per cent, were so reported, and of the eclectic graduates only one, or less than 1 per cent, was reported as holding a degree from a college of liberal arts. Of the 753 grad-

uates holding baccalaureate degrees, 139—the largest number—came from Illinois colleges, followed by 99 from New York, 80 from Maryland, 73 from Pennsylvania and 60 from Massachusetts. According to *The Journal of the American Medical Association,* which publishes these figures in its annual educational number, the reports indicate that the number of medical-school graduates is diminishing and the quality is improving.

WHY MEDICAL ADVERTISING IS GENERALLY FRAUDULENT.

At different times, says *The Journal of the American Medical Association,* we have been asked the question: "Why is medical advertising usually fraudulent?" This question has been answered to the best of our ability, but we have never answered it any better than does *Standard Advertising* in its issue of September, 1913. This magazine is carrying on a campaign for clean advertising. Here is its explanation:

"In the orderly working out of our campaign in favor of clean publications some criticism has come to light because, according to our notion, medical advertising is not legitimate.

"The contention that a doctor, or the owner of a proprietary remedy, may be as honest as a regular medical practitioner is true. He *may be. But if he told the truth about his service he would make no profit.*

"*No advertising doctor possesses any secret which the profession does not possess. He must make believe some unusual advantage or his advertising will not pull.*

"Again, sick people are, as a rule, gullible They are discouraged, disheartened, and in no condition to analyze. They grab at straws, and the main thing which medical advertisers do is to make the patient 'feel better' regardless of the permanent effect on the system.

"This brings about the 'dope' which is so much in evidence in advertised remedies and treatments.

"*Standard Advertising* has no criticism to make of any doctor simply because he advertises, but the facts stand out clearly that if he makes his offer in keeping with the truth he will not attract business, and for that reason medical advertising is at least 90 per cent fake advertising."

DEPARTMENT OF AGRICULTURE WILL USE BACTERIAL COUNT IN MILK INSPECTION.

WASHINGTON, D. C.

Information has come to the Department of Agriculture that persons representing certain milk dealers are circulating the statement that the United States Department of Agriculture has abandoned all bacteriological examination of milk as a test for its cleanliness and fitness for human consumption.

The Department, therefore, has issued the following statement of its position:

1. All statements that the Department has abandoned, or will abandon, the bacteriological examination of milk shipped in interstate commerce as a means of determining its cleanliness and fitness for human consumption, are without foundation. While the Department has not fixed any specific bacteriological count as a standard in the enforcement of the food and drugs act, it does use bacteriological examinations in reaching its conclusions, and will continue to use these methods irrespective of what action any association may take. The Department has never stated that it will not use such methods.

2. The only change in policy in the Department in regard to bacteriological examinations has been to discontinue basing prosecution upon the bacteriological examination of a single sample. It now collects a number of samples at different times and examines them bacteriologically. If the bacteriological examination shows that the milk is not clean, but is not a serious menace to health, and the bacteriological deviation from clean milk is a small one, the Department, through the Bureau of Animal Industry, endeavors to teach the dairyman how to produce clean milk. If he then neglects to take measures to make his milk clean and safe for human consumption the Department, by taking action in the case of milk shipped in interstate commerce, endeavors to force him to bring his milk to a point of safety and food excellence through prosecutions under the food and drugs act.

FRANCE'S RACE OF CRADLE AND COFFIN.

"France," said a lecturer recently, "is the nation where cradles and coffins are running neck and neck, with the coffins gaining the lead."

One reason for this melancholy fact which is appalling thinking men and women in France was forcibly impressed upon the new president of France, M. Poincare, during a recent official visit to St. Antoine Hospital. When he arrived at the clinic of Dr. Lucien Jacquet, accompanied by a full suite of officials, "La Croix Breue" relates, the physician had before him an alcoholic subject, a man will dull, emaciated face.

"This is a case of alcoholic cirrhosis," said the surgeon, "and if you will permit me, Mr. President, I will show you some figures of other alcoholic cases collected by my assistant, Dr. Lebar.

"From the first day of May, 1912, to the first of February, 1913, we have questioned 308 patients concerning their consumption of wine and of spirits, and as to the number of their children, living and dead.

"Here are the sorrowful results of our inquiry:

"One hundred and eleven patients who had consumed alcohol moderately have lost 66 children, or 18.41 per cent of all born to them.

"Eighty patients who drank heavily have lost 73 children, or 20.33 per cent.

"One hundred and seventeen patients who drank very heavily have lost 220 children, or 61.22 per cent."

As the doctor gave these figures with impressive gravity, the statesmen listened in attentive

silence, while the newspaper men made notes and the photographers took snapshots of the unique scene.

"Out of a total of 688 children born to these 308 patients," concluded Dr. Jacquet, "350 died, 207 of them in early infancy. These, Mr. President, especially under present circumstances, are sad and terrifying figures, and I regret having to make you acquainted with them."

The President, listening closely and a little pale, replied, "You must tell the truth, doctor." Turning to those behind him, he said:

"I hope, gentlemen of the press, you have taken those figures and will make them known to the country."—*National Advocate.*

State News

We regret to learn that the recent accident to Dr. T. B. Moore of Huntington was more serious than at first supposed. The Doctor has only recently been removed from the hospital, but is not yet able to resume his professional work.

* * *

Dr. G. P. Daniel, a new member of the State Board of Health, who is practicing at Marshes, recently met with a very serious loss in the destruction of his home and effects. He will have the sympathy of the profession.

* * *

Dr. Sharp, often our interesting correspondent, has recently made a visit to Cincinnati to consult a surgeon, but was able recently to visit Dr. McDonald at Fairmont, at the Miners' Hospital, where the latter is doing good work, which should be reported in the Journal. The Miners' Hospitals, by the way, do not make use of their abundant material in the education of the profession as they should.

* * *

Dr. O. D. Barker of Parkersburg is in Baltimore for the winter, taking post-graduate work.

* * *

Dr. W. S. Robertson is taking post-graduate work in New York. He is giving attention to the genito-urinary diseases and on his return to Charleston purposes devoting his time exclusively to this work, and dermatology.

* * *

Married.—Miss Edith Holmes Henry, daughter of Dr. C. O. Henry of Fairmont, to Mr. Milton Reuben Franz, on Wednesday, October 29. Congratulations.

* * *

Removals.—Dr. D. E. Musgrave, from Mt. Pleasant to Wright, W. Va. Dr. M. P. Malcolm from Lewiston to Charleston, W. Va.

* * *

The editor will be in Parkersburg November 10 to 12, conducting the examination of applicants for license to practice medicine.

* * *

At the request of Dr. W. T. Henshaw, Berkeley county's most efficient and self-sacrificing health officer, the secretary of the State Board of Health recently visited Martinsburg, and in company with the Doctor, Dr. Lumsden of the United States Public Health Service, and Drs. LeFever and Hoffman of the county, made an extensive auto trip through a good part of the county in the investigation of the typhoid situation. The disease prevails extensively in Berkeley and other eastern counties of the state. In the evening a largely attended public meeting was held at Bunker Hill, which was addressed by Dr. Lumsden of the United States Public Health Service, the secretary of the State Board and Dr. Henshaw. Subjects discussed were typhoid fever, smallpox and vaccination. The audience seemed deeply interested.

Society Proceedings

CABELL COUNTY SOCIETY.

Huntington, W. Va., Oct. 21, 1913

Editor W. Va. Medical Journal:

The regular monthly meeting of this Society was held in the Hotel Frederick on the evening of the 9th.

The address of the evening was given by Dr. M. L. Heidingsfeld of Cincinnati. The subject of the address was "The Salvarsan Treatment of Syphilis; Some of Its Present-day Phases." The Doctor illustrated the talk with lantern slides.

After the program lunch was served in the Dutch room.

Fraternally yours,

James R. Bloss, *Sec'y.*

TYLER COUNTY SOCIETY MET.

The Tyler County Medical Society met at Paden Park, Monday. A good attendance was present. Dr. S. L. Jepson of Wheeling, secretary of the State Board of Health, and editor of our State Medical Journal, was present and addressed the society. A number of visiting doctors from Wetzel county were present. An excellent dinner was served.

FAYETTE COUNTY SOCIETY.

Tuesday, Oct. 7, 1913.

Program of Meeting.—Address by the president, Dr. T. H. Elliott. Paper, Dr. Robert Ingram, Cincinnati, O., "New Symptoms in Disease of the Pyramidal Tracts." Discussion, opened by Dr. Elbert S. Dupuy. Paper, Dr. H. L. Kirkpatrick, "The Doctor vs. the Local Courts." Discussions, opened by Dr. M. O. Hess. Paper, Dr. J. E. Coleman, Beckley, W. Va., "Chronic Paracolitis." Discussion, opened by Drs. J. Ross Hunter and B. B. Wheeler. Paper, Dr. H. L. Goodman, "Co-operation of Members Necessary for the Success of County Societies." Discussion, opened by Dr. E. Y. Willis. Clinical case reports. Reading of voluntary papers. Business session. Adjournment.

H. C. Skaggs, *Sec'y.*

[How much of above was carried out it would be interesting to know. Tell us.—Editor.—]

LITTLE KANAWHA AND OHIO VALLEY SOCIETY.

Parkersburg, W. Va

Editor W. Va. Medical Journal:

An important feature of the regular monthly

meeting of the Little Kanawha and Ohio Valley Medical Society, held Thursday evening at the Chancellor Hotel, was a discussion in which the need of further quarantine laws and the better enforcing of them by both the city and county officials was brought out. Another topic of discussion was the need for a school physician who will take charge of school inspection. Several cities in this state have school physicians. Notable among these is Clarksburg, where the official receives $1,000 per year for the time that he gives to the duty.

The first feature of the evening was a paper by Dr. Hubert F. Gaynor on the general subject of "Whooping Cough." Dr. Gaynor told of the discovery of the germ of whooping cough and its treatment by the use of serums. He told of its contagious character and the fact that both whooping cough and measles are much more dangerous than is commonly supposed. He stated that health authorities urge that these two diseases should be made quarantinable. They are especially dangerous to children under two years of age when complications ensue. Following the address the subject was discussed generally by the other physicians in attendance.

Later the subject of quarantines and their enforcement was brought up. The need of quarantines in diphtheria and scarlet fever was insisted upon, as well as that the city and county authorities should furnish antitoxin to physicians for poor patients. Too often, it was stated, the physician has to give his services free, and sometimes with the druggist, also furnishes the antitoxin.

After an attack of diphtheria children should be subjected to a bacteriological examination by the health officer before re-entering school, was another claim set forth. The local school authorities, because of lack of money, are unable to provide medical inspection as provided by a recent state law. Last year physicians and dentists gave their services free for the inspection.

M'DOWELL COUNTY SOCIETY.

JAEGER, W. VA., Oct. 18, 1913.

Editor W. Va. Medical Journal:

The society passed a resolution at its last meeting, which was held in Welch, October 8, relative to the members making life insurance examinations for a less fee than that charged by the profession elsewhere. I give yon below the exact copy of the resolution:

"*Resolved*, That the members of the McDowell County Medical Society are opposed to making life insurance examinations for a less fee than $5, and we mutually agree to make this amount the minimum fee;

"*Resolved Further*, That the secretary will mail each member a copy of the above resolution and that a copy be sent to the West Virginia Medical Journal for its publication."

Again, permit me to call your attention to the successful condition of our society. We believe that at no time in the history of the society has it had a better attendance and more interest manifested than during the year 1913. It is hoped that the next, the last business meeting for the year, which will be held in Welch on the 12th of November, will be the best reunion of the year. Kindly do your part to make it the banner meeting by taking time to come on this occasion.

I trust that I will have the pleasure of shaking hands with you at the next stated reunion.

Fraternally yours,

S. D. HATFIELD, *Sec'y.*

RITCHIE COUNTY SOCIETY.

PENNSBORO, W. VA., Oct. 27, 1913

Editor W. Va. Medical Journal:

Ritchie County Medical Society met at Harrisville October 15, and special session, called by the president for the purpose of electing officers for the ensuing year.

Dr. H. M. Rymer read a very interesting paper on the "Use of Obstetrical Forceps," which created a very interesting discussion.

The officers elected for the ensuing year were: Dr. C. L. Boyers, Ellenboro, president; Dr. Rexroad, Harrisville, first vice president; Dr. Talbott, Harrisville, second vice president; Dr. L. P. Jones, Pennsboro, secretary-treasurer.

Meeting was adjourned to meet at the next regular meeting night in Harrisville, the third Wednesday in November.

Very truly yours,

LATIMER P. JONES, *Sec'y.*

Reviews

TUBERCULIN IN DIAGNOSIS AND TREATMENT.—By FRANCIS MARION POTTENGER, A. M., M. D., L.L. D., Medical Director of the Pottenger Sanatorium for Diseases of the Lungs and Throat, Monravia, Cal. Thirty-five illustrations, one in color. St. Louis, C. V. Mosby Co., 1913.

A very complete and exhaustive monograph on the diagnostic and therapeutic use of tuberculin. The author gave his first dose of tuberculin in 1896, and from then until now he has not seen the time when he did not have from a few to more than a hundred patients under treatment. Has treated about two thousand, patients in this way. The patients have represented all stages of the disease and nearly every phase of pathological change and complications. The author puts much stress on the importance of early treatment. He discusses fully all objections which have been made to the tuberculin treatment. Physicians interested in this subject will do well to procure a copy of the book.

G. D. L.

MALARIA.—By GRAHAM E. HENSON, M. D., Member A. M. A., Florida Medical Association. American Society of Tropical Medicine, U. S. Army. With an introduction by CHARLES C. BASS, M. D., Professor of Experimental Medicine, Tulane University, New Orleans 210 Pages, 27 Illustrations, and a Colored Plate. Price, $2.50. The C. V. Mosby Co., Medical Publishers, 801-806 Metropolitan Bldg., St. Louis, U. S. A.

To those physicians who practice in districts where malaria is met with, this book will prove

especially useful; where the disease is not endemic each physician needs it, for in this day of extensive traveling, many obscure cases are met with, due to malaria. A careful reading of this book will certainly put one on guard and greatly aid in solving these puzzling cases.

In Chaper I, we have the General Considerations of Malaria given in a satisfactory manner. Chapters 2 and 3 dealing with "The Malarial Parasite, Their Standing, Reactions," etc., and "The Malarial-carrying Mosquitoes" are to be particularly commended.

The technic of the examination of the blood for the parasites is carefully explained; it is very simple and requires no great laboratory skill to carry out and should prove of inestimable value in diagnosing obscure conditions.

Pathology, Complications, Sequelae and Prognosis are fully dealt with, while the Chapter on "Diagnosis" is alone worth the price of the book.

Prophylaxis is carefully gone into and the various measures that have proven of such great value at Panama and elsewhere, are clearly described.

Treatment is dealt with in a practical as well as scientific manner, which cannot be said of many of the books we are urged to put into our libraries. The various methods of administering quinine are carefully described; the efficiency of the different quinine salts is compared and other drugs which have been found of value described. A number of prescriptions are given.

The book is to be recommended and the author thanked for the practical manner in which he has dealt with his subject.—J. R. B.

CLINICAL LABORATORY METHODS, A MANUAL OF TECHNIQUE AND MORPHOLOGY, DESIGNED FOR THE USE OF STUDENTS AND PRACTITIONERS OF MEDICINE.—By ROGER SYLVESTER MORRIS, A. B., M. D., Associate Professor of Medicine, Washington University, St. Louis; formerly Associate in Medicine Johns Hopkin University, etc., etc. New York and London. D. Appleton & Co., 1913.

One of the marked lines of improvement in medical education and advance in this country has been the increase in laboratory methods as a means of diagnosis. Even the older practitioners are realizing the importance of laboratory assistance in their daily work. This book is a manual giving in detail the means of detecting the abnormal in urine, gastric contents, blood, sputum, feces and puncture fluids. The significance of the abnormal is not discussed, that being left to the text books on practice, thus giving more space to discuss methods. The book is beautifully printed and quite liberally illustrated and will prove of value to the man who will make use of it.—G. D L.

HOSPITAL OF PROTESTANT EPISCOPAL CHURCH IN PHILADELPHIA: MEDICAL AND SURGICAL REPORTS, VOL. I. PHILADELPHIA.—WM. J. DARNAN.

A work like this must be seen and examined to be appreciated. In the space allotted us, we cannot begin to enumerate the valuable articles by physicians and surgeons, many of them specialists in their particular lines. During the year 4,433 patients were admitted to the hospital. Of these 2,742 were discharged cured, and 1,004 improved, 241 unimproved, while 408 have died, leaving 323 under treatment. The immense number of 22,755 new patients were treated at their dispensatories during the year Excellent cuts and some colored plates illustrate most of the articles. Two rather extensive articles deserve special mention, one is on "Antitoxin Treatment of Tetanus," and the other is "Rational Treatment of Tetanus." Physicians especially interested in this subject will do well to procure a copy of this work.—G. D. L.

THE SURGICAL CLINICS OF JOHN B. MURPHY, M.D. at Mercy Hospital, Chicago Volume II. Number V. (October 1913). Octavo of 174 pages, 52 illustrations. Philadelphia and London. W. B. Saunders Company, 1913. Published Bi-Monthly. Price per year: Paper, $8.00. Cloth, $12.00.

The October Clinics again demonstrate the great versatility of the author. A score of subjects are treated in his usual masterful fashion.

To the surgeon who is not fully satisfied with his hernial results, this volume will prove most valuable. The Bassini operation with modification by Andrews, and stamp of approval by Murphy, is here clearly set forth and may properly be considered the perfected herniotomy.

A discussion of appendicitis by Murphy is always of interest, and never more so that his lecture upon this subject in the October number.

R.

Medical Outlook

CERTAIN DANGERS OF THE ADENOID OPERATION.

GROVE (*Johns Hopkins Hospital Bulletin*, April, 1913), calling attention to the fact that the adenoid operation is the one most frequently practiced by the laryngologist, the rhinologist, or otologist, and is regarded by the laity and many physicians as absolutely harmless, groups the most frequent and dangerous complications under post-operative bleeding and post-operative infection. He quotes seven fatal cases of bleeding reported by Barrell and Orr in 1907, and notes that Burger is credited with having collected from the literature 40 cases of severe bleeding with three or four deaths. Since the operation is done by the sense of touch and always in an infected field, it is obvious that infections must frequently form post-operative complications. Practically all the acute infectious diseases of childhood have been observed as post-operative sequelae. Cases of scarlet fever and diphtheria

are due to the fact that the operation was carried out in the incubation period of these conditions, or it was performed on patients who were chronic bacillus carriers, in whose throats the bacillus of diphtheria or the virus of scarlet fever was present in latent or in a non-virulent form.

Grove concludes that it would be well to operate when no local infectious processes were present in the nose, nasopharynx, or ear. We should do well, also, not to operate during local epidemics of the acute infectious diseases of childhood, especially if the patient had come into any sort of contact with children ill of these diseases.

Finally, we all realize that the ideal method of working is to make hospital cases of all these operations and to keep the patients under observation for a considerable period of time. This is practically impossible in all cases, but we can, nevertheless, keep out patients under observation for longer periods of time than is at present customary, especially if these patients are adults. If after two or three weeks no complications appear we can discharge the patients from our care.

NEEDLE IN HEART FIFTEEN MONTHS.

DR. W. P. NORTHRUP of New York, in the *American Journal, Diseases of Children,* reports a case of this kind in a child in the Presbyterian Hospital. How the needle entered can only be surmised. The case had been considered one of congenital heart disease. All sorts of murmurs were heard. An X-ray picture revealed the presence of a needle. After some observation the child was sent to the country to recuperate, and returned with pneumonia, from which it died. An autopsy revealed the needle "free in the left ventricle., butt end down. The needle was slightly corroded. There was no ante-mortem clot, and no inflammatory action about it. It pierced and extended beyond the mitral valve and scratched the endocardium of the auricle," a part of which had been rubbed off, causing ulceration. There was evidence that the needle had traveled from the abdominal cavity upward, and it had probably entered when the child had a fall when one year old, at which time the mother noticed a protrusion below the sternum.

MELTZER'S SIGN IN APPENDICITIS.

Meltzer's sign is elicited in the following manner: With the patient supine and the abdomen relaxed the examiner presses *firmly* with his finger tips down upon McBurney's point; the patient is then instructed to raise his right thigh, *with the knee fully extended.* If this movement causes, or is inhibited by, severe pain, it is strongly suggestive of appendicitis, the organ being compressed between the contracting psoas muscle and the examiner's fingers. The test is, obviously, inapplicable in the presence of rigidity or a mass—in which cases it is not needed. The sign is not in itself diagnostic, both because the pain is slight or absent in some cases of appendicitis, and because it may be marked even without appendicitis, if the examiner presses very firmly or, especially, if the patient is very sensitive. It is always advisable, therefore, to *make a comparative test on the left side.*

Meltzer's test should be part of the routine examination in all doubtful cases. It is more generally useful than the Head Zone test, since cutaneous hyperesthesia usually disappears when the acute symptoms subside. It is much more useful, too, in our experience, than the so-called Rovsing sign (which was previously described by an American surgeon, and which has been variously modified) viz., pain in the appendix region on pressing the corresponding point on the left side(or, better, pressing upward on the descending colon).—W. M. B., in *American Journal of Surgery.*

THE DEVELOPMENT OF MALIGNANCY IN BENIGN NEW GROWTHS OF THE SKIN.

The skin is no exception to the rule that malignant disease may gradually develop in tissues that are themselves the seat of a perfectly innocent hyperplasia. It has been pointed out that the line of demarcation between malignant and non-malignant cutaneous growths is not a hard and fast one. DR. RICHARD L. SUTTON of Kansas City (*American Journal Med. Sci.,* June, 1913) summarizes the literature upon the subject and quotes the opinion of Adamson to the effect that "histologically the lesions of rodent ulcer have many features in common with those of epithelioma (acanthoma) adenoides cysticum, and they are probably derived from the same part of the epidermis. Pathologically, they differ, in that the one tends slowly to invade and to destroy the surrounding tissue, while the other has no such tendency." The author has studied three cases of acanthoma adenoides cysticum exhaustively and he believes the lesions to be embryonic in character and similar, in some respects, to those of syringocystadenoma. Two cases are described in detail, in women, one of the latter affection in which epithelioma developed, and another of multiple rodent ulcers, which began as small, flat-topped "moles." In the second case the growths were treated by solid carbon dioxide with success. A noteworthy point with regard to the pathology of acanthoma is the regularity with which the epidermal processes extend into the subjacent connective tissue, whereas in rodent ulcer and allied types of epithelioma there is a striking tendency of the cells to proliferate irregularly and to destroy normal structures.

INFANT FEEDING.—F. W. Schultz, M.D., Minneapolis, has an interesting article in the *Jour. Lancet,* a paper read before State Med. Assn. He says: "In regard to feeding the four hour interval is the one that has proved most satisfactory. Six hours is rather too long a period, but a four hour interval seems to be the proper thing. An interesting line of experimentation led up to this result. It has been found that milk does not disappear from stomach until about third hour. That is a practical illustration why it is a mistake to feed an infant every two hours or every hour and a half.

BLOOD PRESSURE AS IT CONCERNS THE GEN. PRACTITIONER.—This is title of an article in Va. Med. Semi-monthly for July 11, by Louis G. Beall, M.D., Greenboro, N. C. He concludes by saying the splugg-manometer should be used by the general practitioner in the following cases: 1. In examining every new patient. 2. Treating cardio-vescular diseases. 3. In all obstetric cases (Here he says if blood pressure is above 150, there is danger of eclampsia). 4. In all examinations as to state of health. 5. In order to contribute to the knowledge of this subject. 6. In acute abdominal pain—helps differentiate between biliary and renal colic. 7. In psychiatric cases. 9. In suspected cases of hemorrhage. 10. In tuberculosis. G. D. L.

"Cure with a minimum of risk and a maximum of results, should be the constant end and aim. As Finney has said, 'None knows better than the experienced surgeon how far-reaching are the possibilities for good or evil lurking behind every surgical 'procedure.' Therefore, the indication should always be exceedingly clear, the need great, and all of the safeguarding and exacting conditions fulfilled. The unnecessary operation is the crying shame of present-day surgery. These are performed by the 'operator,' not by the surgeon. There is a vast distinction between an operator and a surgeon. There are many of the former but few of the latter class, comprehending as it does men of saneness, probity and judgment. How difficult is the acquisition of surgical judgment! Judgment is the queen of mental attributes in the ordinary affairs of life; but how all-important and responsible is the exercise of that judgment, even if acquired, when brought to bear on the health, the limb and life that is so trustingly and confidently placed in the hands of that man who alone can restore it." —*Haggard's Oration in Surgery.*

PREGNANCY AFTER REMOVAL OF BOTH TUBES.—DR. FREEMAN of Louisville, in the *Kentucky Med. Jour.*, Jan. 15th ,tells of a woman aged 20 from whom, on April 17, 1911, he removed "the ovary and tube on left side entire, litigating with the usual transfiguration ligature. The right tube was removed after ligation with a transfixion ligature, one arm of which was brought around the tube and tied at the cornu of uterus, the other brought under the fimbriae above the ovary was resected by a wedge-shaped incision and the tunica albuginea sutured over. The stumps of both tubes were sutured over with No. 1 plain cat-gut. The ligature used in tying being double No. 1 twenty-day cat-gut. After appendix was removed, the abdomen was closed in the usual way.

The patient was then turned on her side and a necrotic coccyx was removed.

She was put to bed and made a good convalescence. May 16 she left the hospital.

November 15 she came to my office. She had menstruated three times since operation; in June July and August, each time quite scanty.

I examined her and found the uterus was enlarged and palpated a small mass in the neighborhood of the right ovary. Saw her again in January, 1912, uterus still larger and quite tender. Saw her again in March, and made a positive diagnosis of pregnancy.

Dr. Montgomery reported to me that on June , 13912, he delivered her of a normal child, labor quite tedious and painful.

The operative history of this case presents no unusual features, but the gestation history is exceedingly rare. A case in which a woman about 400 days after both tubes, one entire ovary and the greater part of the other had been removed, gave birth to a normal child should be classed among the anomalies and curiosities of medicine."

REDUCTION OF COLLES FRACTURE.—In a Colles' fracture, the future usefulness of the hand depends on perfect reduction of the deformity. In robust subjects general anesthesia will be required. After reduction the forearm is encased in antero-posterior plaster- of-Paris splints, the hand being well flexed and the splints not extending beyond the metacarpo-phalangeal articulation. This enables the patient to freely use the fingers and prevents the stiffness that followed the old plan of treatment. The bandage should be removed once a week, and the parts thoroughly massaged. Where any difficulty is experienced in keeping in good apposition the broken ends in fractures of the metacarpus, metatarsus and phalanges, the fracture should be exposed under rigid asepsis, holes drilled in the bone, and the bone sutured with kangaroo tendon or 30-day chromic catgut. In all fractures, skiagraphs should be taken after reduction has been accomplished in order to determine the accuracy of apposition.—W. W. HARPER, *International Jour. of Surgery.*

VENEREAL DISEASES IN NEW YORK CITY.—During the month of January, 1913, the Department of Health requested seven thousand physicians in Greater New York to furnish the department with information regarding the number of cases of syphilis, gonorrhea and chancroid that had been under their care in their private practice during the twelve months previous, in order that some idea of the number of cases of venereal disease treated during 1912 might be obtained (*N. Y. Med. Jour.*). Only 2,215 physicians responded to this request, reporting 13,348 cases of syphilis, 24,980 cases of gonorrhea, and 4,431 cases of chancroid, making a total of 42,659 cases of venereal disease treated in the private practice of less than one-third of the physicians of this city within twelve months. The number of cases of syphilis is especially and alarmingly large. A complete census of the cases treated in institutions has been unobtainable up to the present time, but the institutional cases, without doubt, exceeds in numbers many times those treated in private practice. The apparently extensive prevalence of venereal diseases in New York City certainly furnishes food for thought.

THE FOURTH VENEREAL DISEASE.—Some four years ago Corbus and Harries reported observations which tended to confirm the claims of Scherber and Mueller that a fourth distinct venereal disease existed. According to Corbus, the condition is a specific balanitis, and is identical with the *balano-posthite erosive circince* of Bataille and Berdal, the latter representing a more aggravated stage of the disorder, but having the same bacteriological genesis.

The scarcity of communication on the subject in American literature is due, so Corbus thinks, to a lack of general knowledge of the infection, a fact which prompts him again to describe the clinical manifestations and the etiologic factors involved (*J. A. M. A.*)

The infection is due to a symbiosis of a spirochete and a vibrio. Corbus sees a distinct etiologic influence in the gratification of the sexual impulse through unnatural means. Practically all of his patients confessed to unnatural practices. It is thought that certain organisms transferred from the buccal cavity to a more favorable habitat beneath a long, tight foreskin, may take on a luxuriant growth with a marked increase in pathogenic power. Thus the spirochete found in Vincent's angina in repeated examinations was determined to be identical with the spirochete of erosive and gangrenous balanitis, a marked feature being its motility.

A clinical characteristic of the development of the erosion is the production of a thing, offensive purulent secretion exuding from beneath the prepuce. Of course, to differentiate the condition from gonorrhea it is but necessary to determine the origin of the pus. As a rule the infection rapidly subsides, if in the erosive stage, by cleansing the surfaces and thereafter maintaining a state of cleanliness.—*Urological Cutaneous Review.*

FOR THE BEGINNING DOCTOR.—By F. A. PITKIN, *M. D.*—Don't commit suicide if all the people do not come to you the first year.

Don't lose your temper when the pay fails to come in. Smile.

Don't kick the dog or cat if things go wrong at home.

Don't crowd the "good-pay" patients too hard or they will leave you.

Don't feel bad when cantankerous patients quit. If they were being treated by the Angel Gabriel they would find fault with the expression of his face or the cut of his wings.

Don't waste time getting angry at the deadbeats. If you can't get anything else out of them to "holler" for you—loud!

Don't fail to make the most thorough examination of every patient and base your diagnosis on what you find—not on what the patient tells you.

Don't get discouraged. Ours is a noble profession, one demanding all your powers, yielding a fair income and commanding more and more of the respect of the community.

Don't keep at it too constantly. "All work and no play makes Jack a dull boy."

Never give up the ship!

CONTRAINDICATIONS TO SALVARSAN—Among contraindications to the use of salvarsan, Beck mentions (*Annals of Otology, Rhinology and Laryngology*) heart disease and aortic aneurism. Acute nephritis ,except of the luetic type, is an absolute contraindication. Ulcerative conditions of the stomach and duodenum and acute swelling or cirrhotic or atrophic liver point to the need for care in using salvarsan. Other conditions adding to the danger of salvarsan are marked progressive degenerative changes in the nervous system, especially when anteriosclerosis is present. Diabetes and general marked obseity should be remembered as adding a dangerous element to salvarsan therapy.

TOXIC ACTION OF SALVARSAN.—Dr. K. BRANDENBURG, in Medizinische Klinik, reports the case of a robust man of 38 who had had no symptoms of syphilis after thorough treatment ending four years before; his wife and children were healthy, and the Wassermann test was negative. But on general principles he thought he had better have a prophylactic injection of salvarsan, and an intravenous injection of 0.5 gm. was given him by a skilled and experienced Berlin specialist. Nausea, vomiting and diarrhea followed the injection at once and the patient died the fourth day in convulsions. In a second case an intravenous injection of 0.1 and 0.2 gm. in the course of a few days followed by paralysis of both arms. The patient was an anemic man of 33. The reaction of degeneration was pronounced, but conditions gradually improved in the course of six months, although the arms were still weak. There was no suspicion of syphilis in this case and the salvarsan was given merely as a means of administering arsenic in convenient form to influence the pallor, physical depression and tendency to dizziness which had persisted after an operation for chronic appendicitis. No cause for the anemia was discovered.—*Jour. Med. Soc. of N. J.*

CHANCRE AFTER SALVARSAN.—M. ROSENTHAL, Baltimore (*Journal A. M. A.*, December 21), reports a case of chancre making its appearance after an intravenous injection of salvarsan in an old case of syphilis. The Wassermann test had been negative for years, but symptoms of locomotor ataxia had appeared. The examination of the serum from the sore showed undoubted spirochetes and the Wassermann was positive. The case is reported on account of its unusual features—the development of a chancre four days after an intravenous injection of salvarsan and that a man suffering from the effects of syphilis should contract the disease again in the usual way.

The West Virginia Medical Journal

Published Monthly
by
The W. Va. State Medical Association

Under the Direction
of the
Committee on Publication

COMMITTEE ON PUBLICATION:
S. L. JEPSON, Chairman.
L. D. WILSON. G. D. LIND. C. A. WINGERTER.

Entered as second-class matter August 10, 1906, at the Post Office at Wheeling W. Va.

Vol. 8—No. 6. WHEELING, W. VA., DECEMBER, 1913 Subscription Price $1.00 per Year Single Copies 15 Cents.

THE RELATION OF THE NASAL ACCESSORY SINUSES TO ONE ANOTHER.

John W. Murphy, M.D., Cincinnati, Ohio.

(Read at Annual Meeting of State Medical Association, May, 1913.)

In a brief consideration of the nasal accessory cavities opening into the nose we wish to do so in the most practical way. I shall omit many of the little details, but aim to give an ocular demonstration on the specimens, of the actual relations of these sinuses to one another and their openings into the nasal chambers.

Each of the sinuses has its special function to perform and, as their mucous membrane is but a continuation of the nasal mucous membrane, you can readily see that any pathological condition in the nose can easily find an extension into one or more of the accessory sinuses.

The outer wall of each nasal chamber is very irregular, and its mucous membrane is covered with ciliated epithelium, which has a very important function to perform, and any disease of the nasal mucous membrane interferes with its important respiratory function. The ciliated epithelium is intended to filter the air before it reaches the lungs, while the contained air in the accessory sinuses is aspirated out with each inspiration, thus furnishing the necessary warmth and moisture for the inspired air.

The irregular surface on the outer wall of each nasal chamber has several well marked channels which are familiar to you all, as the inferior, middle and superior meatus of the nose. Each channel takes its name from its over-hanging bone, and it is through these channels that the accessory sinuses communicate with the nasal chambers.

The accessory cavities opening into the nose are the frontal sinus, the maxillary sinus, the anterior and posterior ethmoidal cells and the sphenoidal sinus. So we have five important sinuses opening into each nasal chamber.

THE FRONTAL SINUS.

From before backwards the first air space met with is the frontal sinus, lying immediately above the root of the nose. This sinus is not present at birth and does not begin to develop until towards the end of the first year, and cannot be recognized as a distinct cavity before the sixth or seventh year of life, and reaches its maximum growth in early adult life, though some anatomists claim that the sinus continues to enlarge up to old age.

The frontal sinuses vary in size more than any of the other sinuses, and in several instances I have found them either very small or absent altogether. Owing to this variation in size, it is always well to have an X-ray plate made before deciding to operate. I have several plates made of these sinuses, and you can see that the sinuses are clearly outlined. This is a great aid in any operative procedures upon the frontals.

The opening of this sinus is always present, and is situated in the lowest part

of the floor, hence is the most readily drained of any of the sinuses and usually can be explored with a bent probe. Now and then, however, an over-hanging anterior ethmoid cell may make its examination with the probe not only difficult but impossible.

The frontal sinus is lined with a very thin muco periosteal membrane, continuous through the ostium frontalis with the lining membrane of the nasal chamber. Its surface is covered by ciliated epithelium, and it contains a number of mucous glands. The opening is situated well up in the most narrow portion of the nasal chambers, and this opening is the first to be closed in an acute coryza. The closure leads to an absorption of the contained air, so that the space is no longer a sinus, but becomes a vacuum, which leads to hyperemia and congestion of the lining membrane, and produces the stuffy feeling and annoying headaches which so constantly accompany an acute coryza, and also helps to explain how relief is given by shrinking the swollen mucous membrane. When the ostium frontalis is opened air is permitted to enter the cavity once more and the congestion disappears.

THE MAXILLARY ANTRUM.

The maxillary antrum, often called the antrum of Highmore, is the largest of the nasal accessory cavities. It is a cavity that is constantly present in the body of the upper jaw. At birth it is a small slit-like cavity upon the outer wall of the nasal chamber, at which time the body of the superior maxillary is made up almost entirely of the alveolar process of the jaw, the sockets of the teeth being almost in contact with the orbital plate of the maxilla, forming the floor of the orbital cavity. At birth there is no maxillary sinus beneath the orbit. The growth of the body of the upper jaw bone takes place by the formation of a mass of cancellous, spongy bone between the alveolar process and the orbital plate. As this growth of spongy bone occurs upon its facial aspect a corresponding absorption occurs upon its nasal aspect, and the antrum continues to enlarge, reaching its maximum size about the twenty-fifth year of life. The opening of this cavity is in its upper wall, and opens into the middle meatus of the nose. This situation of the opening renders drainage difficult and infection easy when pus is draining from any of the cavities situated above this opening. Hence, when this cavity is infected, we must always suspect that the seat of infection may be in one or more of the cavities higher up. When infected this cavity can only drain itself when the patient is lying down or the head is placed in a dependent position. Opening as it does into the middle meatus, the pus has a tendency to flow into the posterior nares and its presence may be easily overlooked. The presence of pus is most frequently detected by means of the post-rhinoscopic mirror. The nasal wall of this sinus is quite thin and may be easily opened, just under the anterior end of the inferior turbinated body. The walls of this sinus are covered upon both sides by a periosteal membrane, so that both sides of the bone have a nutritive supply of blood, which may explain the absence of caries of the bone in so many cases of suppuration in the maxillary antrum.

THE ETHMOID CELLS.

The ethmoid air cells play a most important part in the upper construction of the two nasal chambers.

The ethmoid labyrinth consists of an exceedingly light, spongy bone, situated at the root of the nose between the two orbits. Each labyrinth is composed of a number of exceedingly thin-walled cells, but which do not communicate with each other. They are situated between two vertical plates of bone, the outer plate forming a part of the orbital wall, while the inner plate forms part of the nasal fossa of the corresponding side.

The ethmoid cells are not present at birth, but appear about the fifth year of life. There is no regularity as to the size and number of cells contained in the ethmoid. For convenience we divide them into two groups, the anterior and the posterior, depending upon the position of their opening into the nasal chambers. The anterior group drain into the middle meatus, while the posterior group drain into the superior meatus.

The anterior ethmoidal cells are closely associated with the floor and opening of the frontal sinus. Not infrequently one of the frontal cells may form a distinct bulla upon the floor of the frontal sinus, and they fre-

quently extend into the roof of the orbital cavity, beneath the frontal sinus.

THE SPHENOIDAL SINUSES.

The sphenoidal sinuses are the most posterior of all the sinuses opening into the nasal chambers and are situated in the body of the sphenoid bone.

These sinuses are not present at birth and only begin to form in the spongy bone of the sphenoid about the third year of life, and are fairly constant about the sixth year of life. Occasionally one or both of these sinuses may be absent, as we sometimes find in the frontal sinus.

The opening of the sphenoidal sinuses is some little distance above its floor, on its anterior wall and nearer to the nasal septum. Most important intra-cranial structures are in intimate relation with the body of the sphenoid and its contained air spaces.

The olfactory peduncle, the optic commissure, the pituitary body and the pons Varolii. At the junction of the roof of the sinus with its external lateral wall the optic nerve and ophthalmic artery pass forward to the orbit. The plate of the bone forming the roof of the sinus is usually very thin. Situated as it is so deeply in the nasal cavity this is the most difficult of the accessory cavities to treat surgically, yet one not infrequently demanding surgical interference.

I have now hastily sketched a little of the gross anatomy of these air spaces, that you may more readily follow the demonstrations that may be made upon the sections cut in the antero-posterior diameter and also the coronal sections.

4 West Seventh Street.

PLATE NO. O.

Coronal Sections.—Showing the lines of each section viewed from the right side of the face.

A line drawn tangent to the junction of the upper lip with the nasal septum, is taken as a point of measurement for the nose.

A line drawn tangent to the supra-orbital ridge is taken as a point of measurement for the eye.

On lines drawn at right angles to these two surfaces, the following measurements are given for each section:

1. The first section is three-fourths of one inch, posterior to the supra-orbital ridge and one inch posterior to the junction of the septum with the upper lip. This section passes through the anterior portion of the frontal sinuses, the equator of the right eye, and the posterior limit of the nasal vestibule.

2. The second section is two inches posterior to the supra-orbital ridge and one and three-fourth inches posterior to the junction of the septum with the upper lip.

This section, on the left side, divides the opening of the maxillary antrum and the mouth of the lachrymal canal.

3. The third section is three and one-fourth inches posterior to the supra-orbital ridge and three and one-fourth inches posterior to the junction of the septum with the upper lip.

This section passes through the middle of the sphenoidal cells and the articulation of the vomer with the sphenoid.

4. The fourth section is four and three-fourth inches posterior to the supra-orbital ridge and four and three-fourth inches posterior to the junction of the septum with the upper lip.

This section passes through the middle-ear, showing the tympanum with chain of ossicles in position, together with the relation of the mastoid cells to the middle-ear.

The auricles were pinned forward during the section so as not to be injured.

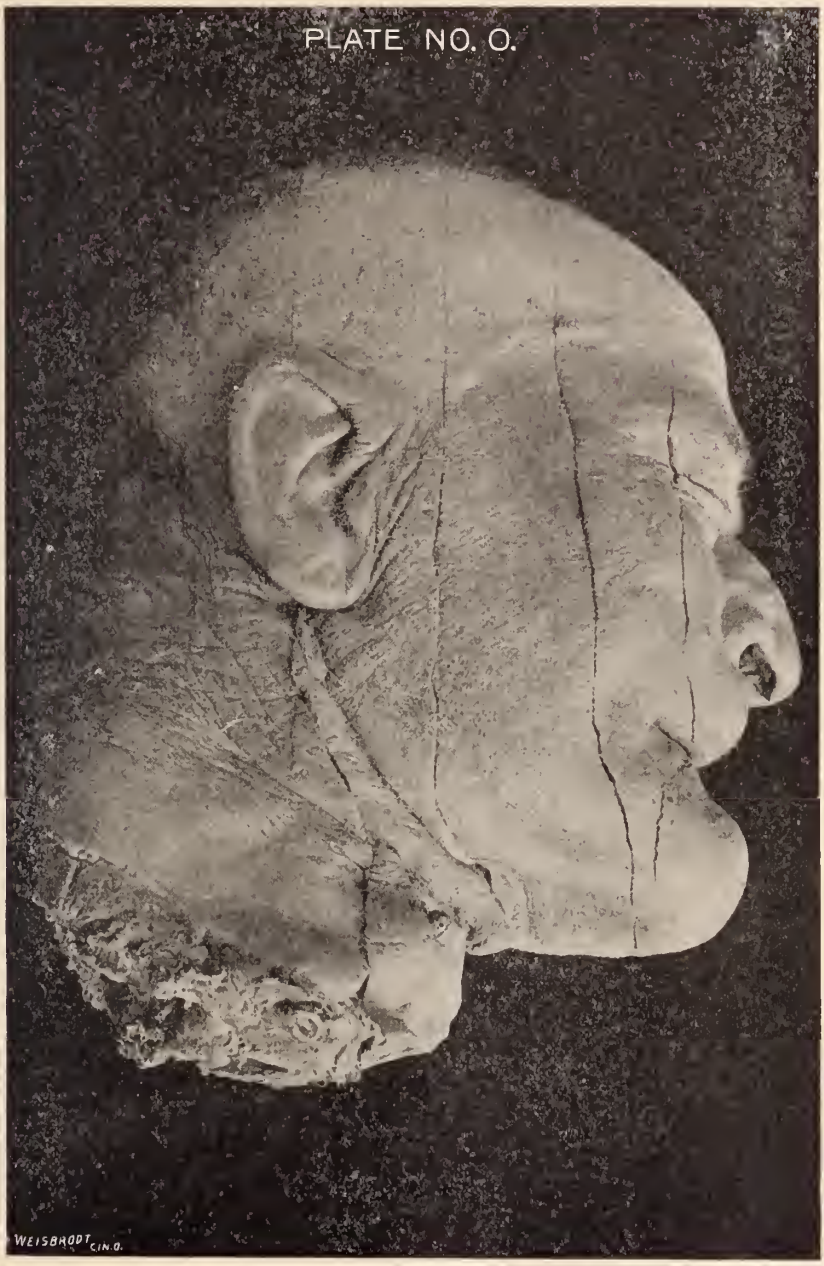
PLATE NO. O.
WEISBRODT CIN. O.

PLATE NO. I.

Coronal Section (oblique) viewed from behind, three-fourths of an inch posterior to the supra-orbital ridge, and one inch posterior to the anterior opening of the nasal vestible, passing through the frontal lobes, the crista galli, the frontal sinuses, the posterior portion of the right eye, and the cartilaginous portion of the septum.

1. The scalp.

2. The unusually thick tables of the frontal bones.

.3 The enormously developed crista galli.

The anterior extremity of the frontal lobes.

5. The right and left frontal sinuses, separated by an irregular septum, deviating to the same side as the deviating nasal septum. The left sinus is much larger than the right.

6. Base of the nose, showing line of articulation with the frontal bones.

7. The nasal septum, thickened and deviating to the right side, so as to almost occlude the right nostril.

8. The enlarged left nostril.

9. The slit-like opening of the right nostril.

10. Anterior portion of the superior maxillary bone.

12. Section through the globe of the right eye, showing the sclera, ciliary muscle and the crystalline lens in position.

13. Orbital fat, surrounding the globe of the eye.

14. The crystalline lens.

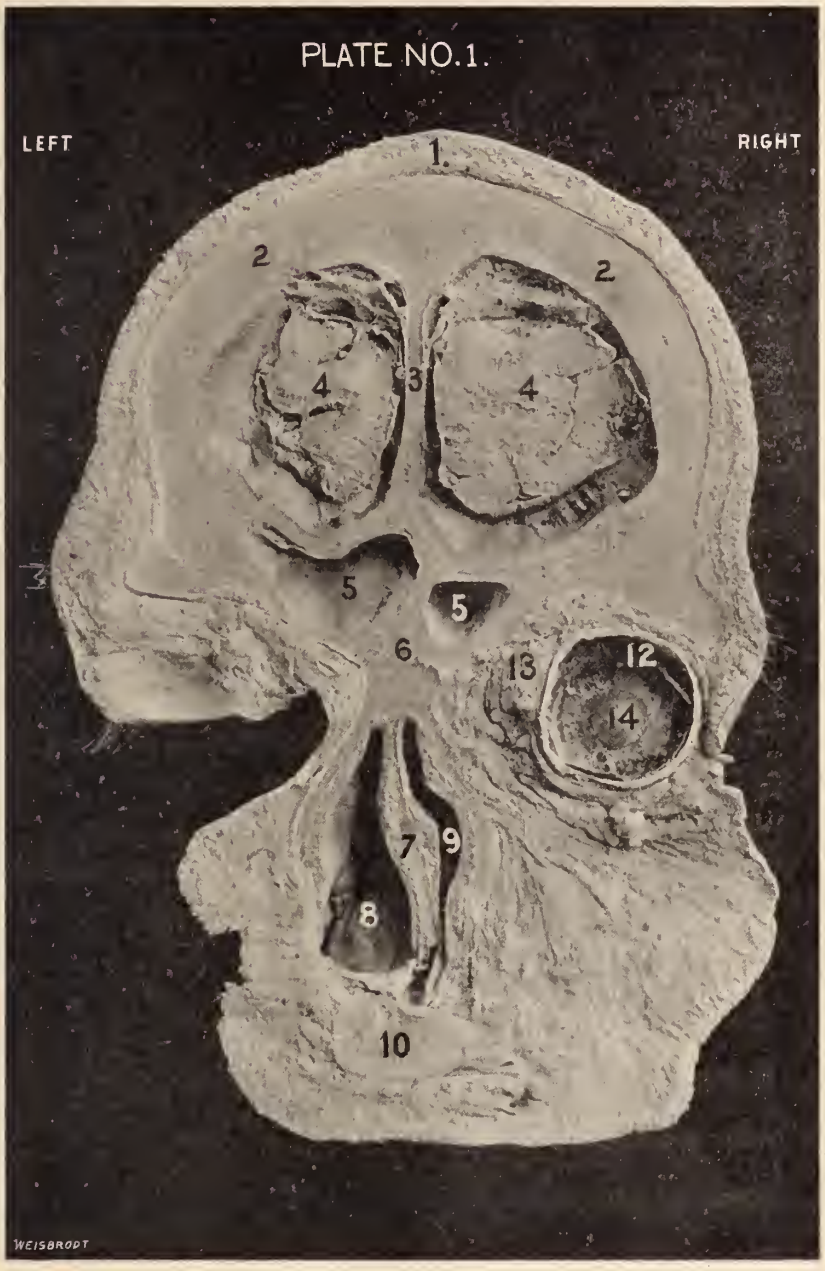

Plate No. 1. Coronal Section (oblique) viewed from behind, three-fourths of an inch posterior to the supra-orbital ridge, and one inch posterior to the anterior opening of the nasal vestibule, passing thrugh the frontal lobes, the crista galli, the frontal sinuses, the posterior portion of the right eye, and the cartilaginous portion of the septum.

PLATE NO. 2.

Coronal section viewed from before, passing through the frontal lobes, the frontal sinuses, the posterior aspect of the right eye-ball, and the nasal septum.

1. The scalp.

2. The very thick tables of the frontal bones.

3 The enormously developed crista galli, with the beginning of the superior longitudinal sinus, on each side of its upper extremity.

4. Section through the frontal lobes and meninges.

5. The frontal sinuses, separated by a very thick septum.

6. The base of the nose, showing line of articulation with the frontal bones.

7. The nasal septum, thickened and deviated to the right side almost occluding the right nostril.

8. The left nostril very much enlarged, by the septum deviating to the right. The turbinated bodies on the open side are very much hypertrophied, while on the closed side they are atrophied.

9. The slit-like opening of the right nostril.

10. The posterior portion of the globe of the right eye.

12. Detached retina lying in the bottom of the right eye-ball.

13. Adipose tissue surrounding the globe of each eye.

14. Cornea of left eye-ball.

15. The anterior portion of the superior maxillary bone.

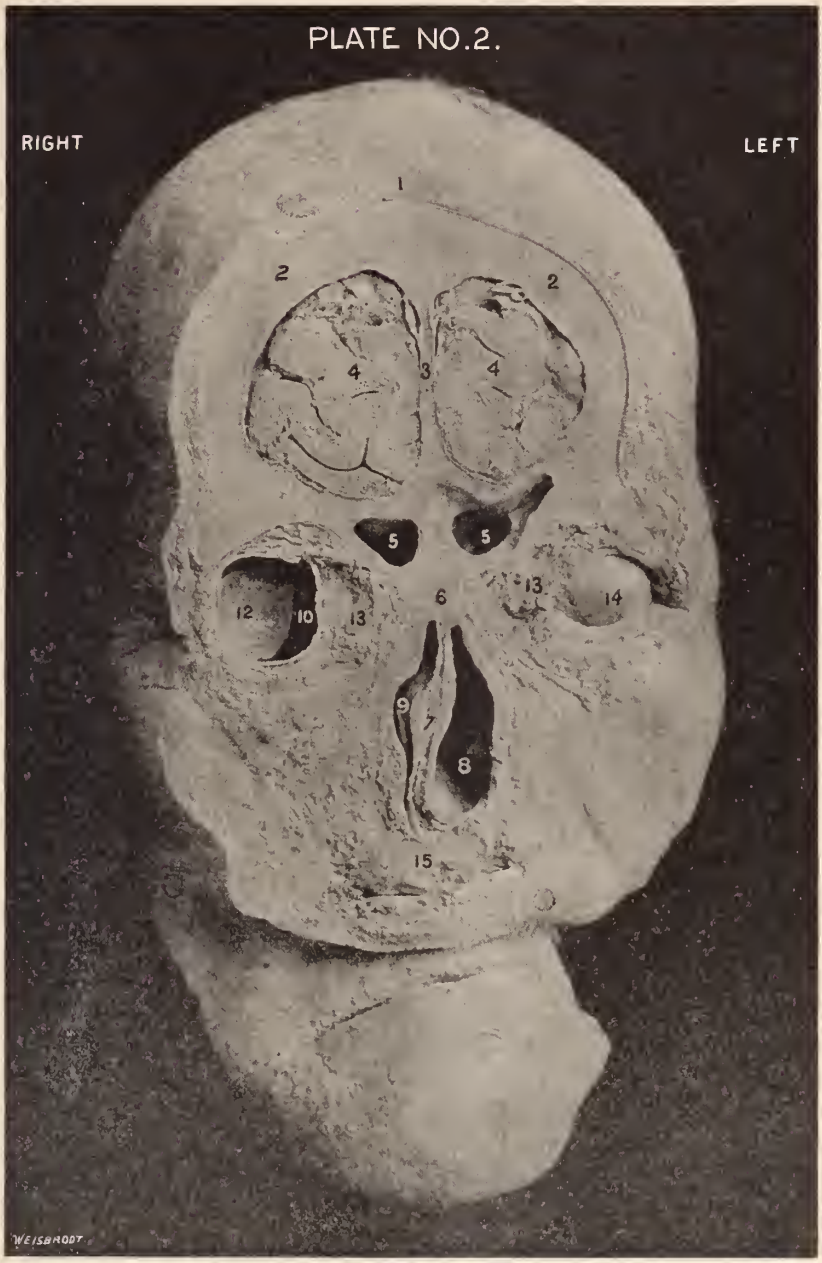

Plate No. 5. Coronal Section viewed from before, passing through the frontal lobes, the frontal sinuses, the posterior aspect of the right eye-ball and the nasal septum.

PLATE NO. 3.

In this section are well brought out the intimate relation existing between the ethmoidal cells and the orbital and cranial cavities; the nasal cavities with the normal position of their spongy turbinated bodies; the hiatus semilunaris on the left side, into which the antrum of Highmore opens; the floor of the right antrum is three-eights of one-inch lower than the floor of the nose, and the marked mesial dip of the frontal lobes, together with the olfactory fissure and bulbs. (Figure 7).

1. The scalp.
2. The tables of the frontal bones.
3. The superior longitudinal sinus.
4. Section of the cerebrum through the middle of the superior median and inferior gyri.
5. The falx cerebri, separating the two hemispheres.
6. Extension upwards and backwards of the left frontal sinus into the orbital plate.
7. Section of the olfactory bulbs resting on the cribriform plate of the ethmoid, through which filaments extend downward in the mucous membrane of the nose as far as Figure 8, which marks the lower limit of the olfactory portion of the nares.
8. The thickened and deviating septum.
9. The superior turbinate body, under which the upper opening of the hiatus similunaris opens into the middle meatus.
10. A large ethmoidal cell or bulla ethmoidalis projecting into the middle meatus.
12. The spongy middle turbinated bodies projecting downwards from the under surface of the cribriform plate of the ethmoid. The turbinates on the right, or occluded side of the nose, are much smaller than those on the left, or more open side.
13. The inferior turbinates projecting from the bony wall of the antrum of Highmore.
14. The superior maxillary bone, forming the roof of the mouth, and the floor of the nose.
15. The mucous surface of the upper lip.
16. The mucous surface of the lower lip.
17. The bodies of the inferior maxillary bones, with the symphysis showing between them.
18. The right and left antrum of Highmore, unusually large. The floor of the right antrum is three-eights of an inch lower than the floor of the nose, while the floor of the left is one-fourth of an inch below the corresponding nasal floor.
19. The ostium maxillare, which was included in the section, on the left side. It opens into the hiatus semilunaris and thence into the middle meatus of the nose.
20. The opening of the ostium maxillare for the right antrum.
21. The upper limit of the inferior meatus.
22. The middle meatus.
23. Section of optic nerve.
24. Section of external rectus.
25. Section of superior rectus.
26. Section of internal rectus.
27. Section of inferior rectus.
28. Junction of vomer with sup. maxillary.
29. The oral cavity.
30. Section of ethmoidal cells.

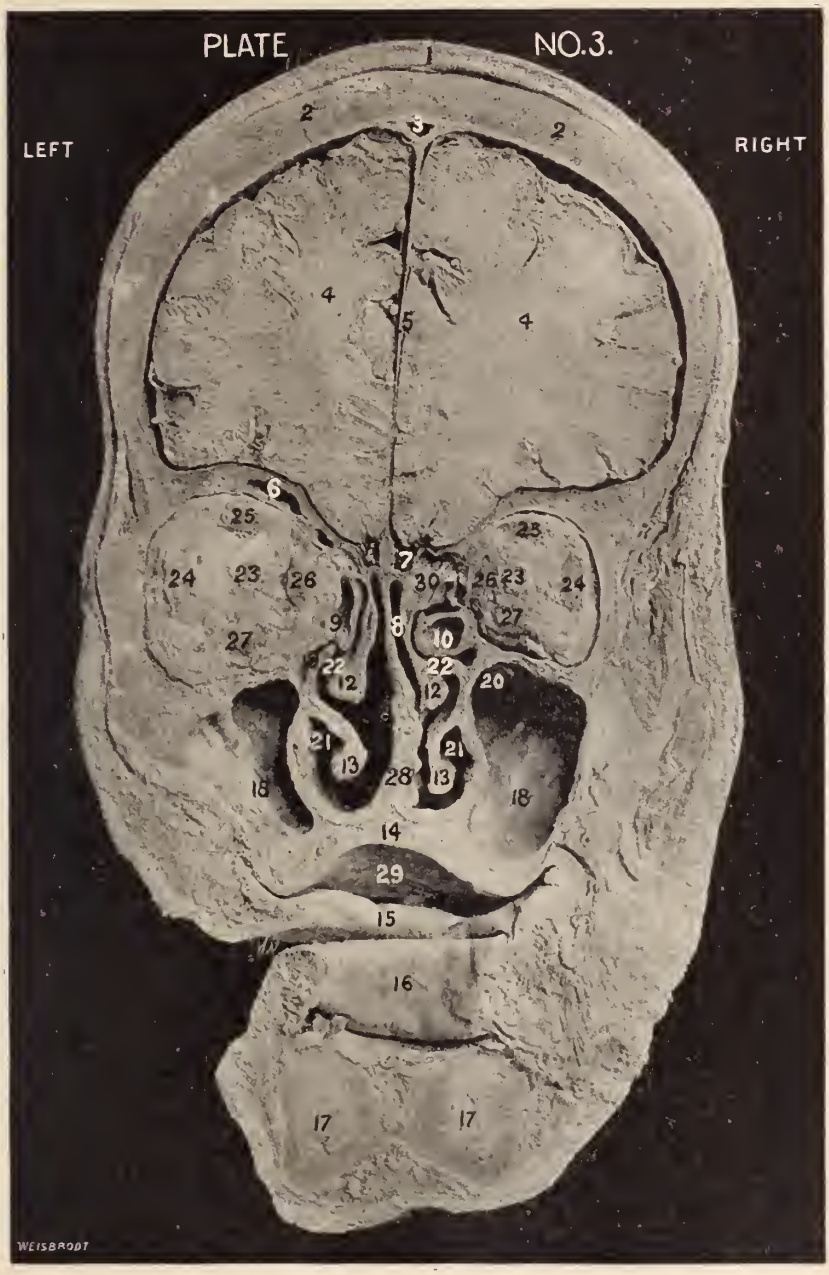

Plate No. 3. Coronal Section viewed from behind, two inches posterior to the supra-orbital ridge, and one and three-quarter inches posterior from the nasal opening, passing through frontal lobes, orbital cavity, ethmoidal cells, turbinated bodies and the antra of Highmore.

PLATE NO. 4.

Coronal Section, viewed from before, two inches posterior to the supra-orbital ridge, and one and three-quarter inches posterior to the junction of the upper lip, with the nasal and oral cavities, ethmoidal cells, spongy turbinates, antra of Highmore, tongue, and bodies of the inferior maxillary bones.

In this section are well shown the mesial dip of the frontal lobes, the olfactory bulbs, and the position and relations of the ethmoidal cells to the cranial, orbital and nasal cavities.

1. The Scalp.

2. Tables of the frontal bones—very thick.

3. The superior longitudinal sinus.

4. Section of the cerebrum through the middle of the superior, median and inferior frontal gyri.

5. The falx cerebri, separating the two hemispheres.

6. The olfactory bulbs, lying upon the cribriform plates of the ethmoid.

7. Ethmoidal cells. The one on the right communicates with the small accessory sphenoidal cell. No. 14 in plate 5.

8. Section of the superior turbinated body.

9. Hiatus semilunaris and ostium maxillare, opening into the middle fossa.

10. Antra of Highmore. The floors of both antra extend below the floor of the nose.

12. The middle turbinated bodies projecting from the under surface of the cribriform plate of the ethmoid.

13. The inferior turbinated bodies projecting from the nasal wall of the maxillary sinus.

14. The thickened nasal septum.

15. The inferior nasal meatus.

16. The middle nasal meatus.

17. The superior nasal meatus.

18. The right and left nostrils.

19. The superior maxillary bone, forming the floor of the nose, and the roof of the mouth.

20. The oral cavity.

21. The cut surface of the anterior portion of the tongue.

22. The bodies of the inferior maxillary bones with the floor of the mouth between them.

23. Section of the right and left optic nerves.

24. Section of the external rectus.

25. Section of the internal rectus.

26. Section of the inferior rectus.

27. Section of the superior rectus.

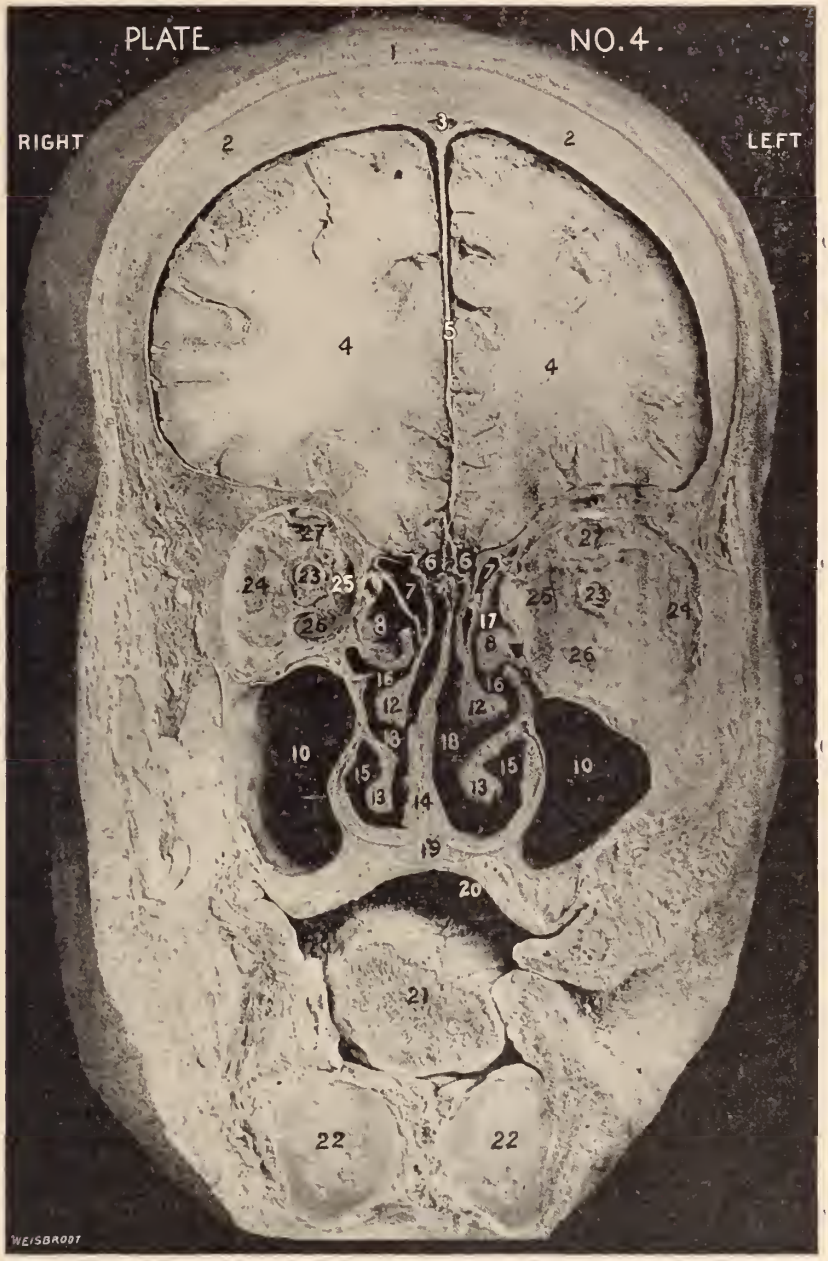

Plate No. 4. Coronal Section, viewed from before, two inches posterior to the supra-orbital ridge, and one and three-quarter inches posterior to the junction of the upper lip with the nasal septum, passing through the frontal lobes, orbital, nasal and oral cavities, ethmoidal cells, spongy turbinates, ntra of Highmore, tongue and bodies of the inferior maxillary bones.

PLATE NO. 5.

Coronal Section viewed from behind, three and one-fourth inches posterior to the supra-orbital ridge, and the junction of the upper lip with the nasal septum, passing through the corpus callosum, the lateral ventricles, septum lucidum, the optic thalami, the cavernous sinus, with carotid artery and nerves, the optic chiasma, the uncinate gyrus of the temporal lobe, the sphenoidal cells, the choana, and the middle of the tongue.

1. The scalp.

2. The skull.

3. The superior longitudinal sinus.

4. Section through the temporal lobes.

5. The falx cerebri.

6. The corpus callosum.

7. The septum lucidum, enclosing the fifth ventricle, and bounded laterally by the anterior horns of the lateral ventricles. On the left side just above the figure 13 is seen the Sylvian fissure with its contained vessels.

8. The right lateral ventricle.

9. The left lateral ventricle.

10. The optic chiasm.

12. Section of the temporal lobe. On the right side, to the left of Figure 12 is seen the cavernous sinus, containing the third, fourth, the ophthalmic division of the fifth and the sixth nerves, together with the internal carotid artery.

13. The uncinate gyrus of the temporal lobe. Above Figures 12 and 13 the section passes through the foot of the anterior central (Rolandic) gyri, and the caudal extremities of the three frontal gyri.

14. A small accessory sphenoidal cell with its separate opening communicating directly with the ethmoid in front.

15. The right and left sphenoidal cavities.

16. Posterior end of vomer, or septum.

17. The choana, or pharyngeal openings of the nostrils.

18. The posterior portion of the left middle turbinate.

19. The posterior portion of the left inferior turbinate.

20. The superior maxillary bone forming the floor of the nose and the roof of the mouth.

21. Section of the middle of the tongue.

22. Section of the inferior maxillary bone.

23. Section of the ascending ramus of the inferior maxillary bone.

24. Section of the superior maxillary bone.

25 and 26. Section of the temporo-maxillary muscles.

27. Section of the optic thalami.

Plate No. 5. Coronal Section viewed from behind, three and one-fourth inches posterior to the supra-orbital ridge, and the junction of the upper lip with the nasal septum, passing through the corpus callosum, the lateral ventricles, septum lucidum, the optic thalami, the cavernous sinus with carotid artery and nerves, the optic chiasma, the uncinate gyrus of the temporal lobe, the sphenoidal cells, the choana, and the middle of the tongue.

PLATE NO. 6.

Coronal Section viewed from before, three and one-fourth inches posterior to the supra-orbital ridge, and the junction of the upper lip with the nasal septum, passing through the temporal lobes, the corpus callosum, lateral ventricles, the optic thalami, the pineal gland, the sphenoidal cells, the post-nasal space and tongue.

1. The scalp.

2. Section of the skull.

3. The superior longitudinal sinus.

4. Section through the temporal lobes.

5. The falx cerebri.

6. The corpus callosum.

7. Septum lucidum, enclosing the fifth ventricle and bounded laterally by the anterior horns of the lateral ventricles.

8. The left lateral ventricle.

9. The right lateral ventricle.

10. The basilar artery.

12. The pineal gland.

13. The internal carotid artery and cavernous sinus.

14. The uncinate gyrus of the temporal lobe. Immediately above Figure 14, on the left side, is seen the cavernous sinus with its contained vessels and nerves.

15. The right and left sphenoidal cells.

16. The sella turcica.

17. The junction of the bony septum with the body of the sphenoid.

18. The post-nasal opening. On the outer wall of this space is seen the trumpet-like opening of the left Eustachean tube.

19. The posterior wall of the post-nasal space. On its lateral wall is seen the right Eustachean tube.

20. The superior maxillary bone forming the floor of the nose and the roof of the month.

21. Section of the tongue near its base.

22. The inferior maxillary bone at angle of the jaw.

23. Section of the ascending ramus of the inferior maxillary bone.

24. Section of the temporal muscles.

Plate No. 6. Coronal Section viewed from before, three and one-fourth inches posterior to the supra-orbital ridge, and the junction of the upper lip with the nasal septum, passing through the temporal lobes, the corpus callosum, lateral ventricles, the optic thalami, the pineal gland, the sphenoidal cells, the post-nasal space and tongue.

PLATE NO. 7.

1. The scalp.
2. Tables of the parietal bones.
3. The superior longitudinal sinus. On the left of the superior longitudinal sinus is seen a parasinoidal space.
4. Section through the posterior portion of the temporal lobes.
5. The falx cerebri.
6. The posterior horns of the lateral ventricles.
7. The descending horns of the lateral ventricles, each containing its choroid plexus, and between these a section of the corpus callosum, immediately anterior to the splenium.
8. The posterior portion of the corpus callosum.
9. The posterior portion of the quadrigemina, or corpora quadrigemina. The lenticular-shaped body between Figures 8 and 9 is the pineal body or conarium, surrounded by the beginning of the velum interpositum, passing in through the great transverse fissure. On either side of the pineal gland, at its upper surface are seen the veins of Galen (Venæ Galeni). At Fig. 7, is seen the Hippocampus Major in the descending cornu of lateral ventricle.
10. Section through the pons. Midway between Figures 9 and 10, in a small flap, which when raised shows the aqueduct of Sylvius, or the iter a tertio ad quartum ventriculorum. On either side of this canal are seen the red nuclei, between which the third nerve passes out a little anterior to this section. On either side of Figure 10 are seen the middle peduncles of the cerebellum.
12. A section of lateral sinus, inner wall of which is ossified.
13. The basilar arteries on either side of the oblongata.
14. The mastoid antrum.
15. The middle ear.
16. The mastoid cells.
17. The posterior portion of the Helix.
18. Anterior wall of the external auditory canal.
19. The middle ear with membrana tympani and ossicles in position. The head of the hammer is seen in the vault of the tympanum above and to the left of Figure 19.
20. Vestibule of inner ear and portion of oval window.
21. The eighth or auditory nerve coming out at the internal auditory meatus, situated immediately below the flocculus. The facial nerve may also be seen at the same point.
22. Longitudinal section of the internal jugular vein.
23. Longitudinal section of tip of the odontoid process of axis.
24. The articulation between the occipital condyle and the atlas.
25. Section of the internal carotid artery.
26. Section of the external carotid artery.
27. Section of the left internal jugular vein.
28. Section of the right internal jugular vein.
29. The posterior pharyngeal wall.
30. The posterior surface of epiglottis.
31. The thyroid cartilage—ossified.
32. The posterior surfaces of the sterno-thyroid muscles.
33. The tentorium.

Plate No. 7. Coronal Section viewed from behind, four and three-quarter inches posterior to the supra-orbital ridge, and the junction of the upper lid with the nasal septum, passing through the temporal lobes, the posterior horns of the lateral ventricles, the conarium, the pons, the oblongata, the middle ear, the mastoid cells, occipital condyles, and the thyroid cartilage.

PLATE NO. 8.

Coronal Section viewed from before, four and three-quarter inches posterior to the supra-orbital ridge and the junction of the upper lip with the nasal septum, passing through the temporal lobes, the posterior horns of the lateral ventricles, the pons, the mastoid cells and the middle-ear, together with the box of the larynx and thyroid cartilage.

1. The scalp.

2. The parietal bones.

3. The superior longitudinal sinus.

4. The posterior portion of temporal lobes.

5. The falx cerebri.

6. The posterior horns of the lateral ventricles.

7. The posterior portion of the corpus callosum.

8. Veins of Galen—venæ Galeni.

9. Section of the tentorium.

10. Section through the pons. The floor of the fourth ventricle is situated immediately posterior to Figure 10.

12. Posterior wall of the external auditory canal.

13. The vestibule of the inner ear with section of the oval window, together with portion of membrana tympani and middle ear.

14. The basilar arteries on either side of the oblongata.

15. Section of the right internal jugular.

16. The mastoid cells on the right side.

17. The condyles of the occipital bones.

18. The articulation between the condyles and the atlas.

19. Longitudinal section of the tip of the odontoid process of the axis.

20. Section of the left internal cartoid artery.

21. Section of the left external cartoid artery.

22. Section of the left internal jugular vein. The black space above Figure 22 is a longitudinal section of the internal jugular vein.

23. Section of the posterior pharyngeal wall.

24. Section of the false vocal cords.

25. The posterior wall of the larynx.

26. Section of the true vocal cords.

27. The glottic opening, with the cords in the cadaveric position.

28. The thyroid cartilage—ossified.

29. Section of the greater cornua of the hyoid bone.

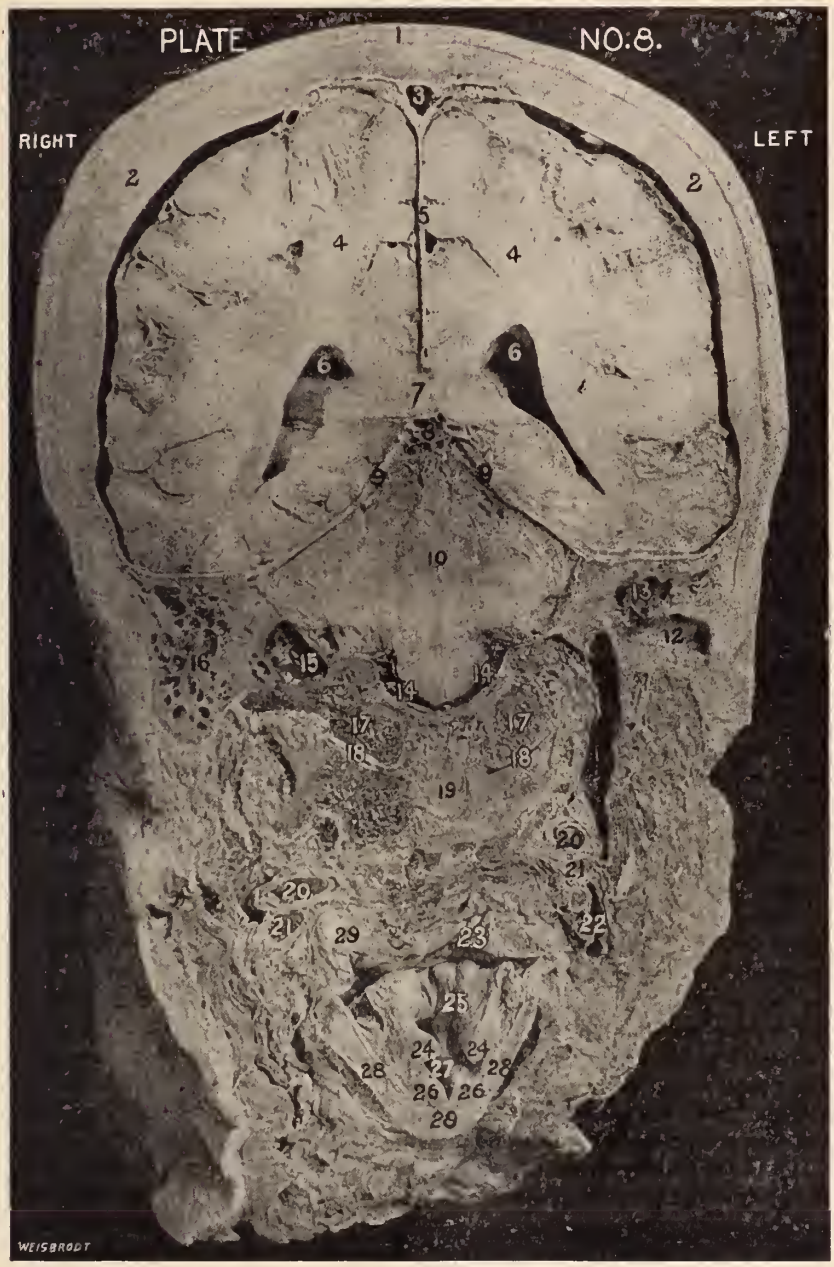

Plate No. 8. Coronal Section viewed from before, four and three-quarter inches posterior to the supra-orbital ridge, and the junction of the upper lip with the nasal septum, passing through the temporal lobes, the posterior horns of the lateral ventricles, the pons, the mastoid cells and the middle ear, together with the box of the larynx and thyroid cartilage.

A LITTLE TALK ON DENTISTRY WITH SUGGESTIONS TO THE PHYSICIAN.

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(Paper read before the Cabell County Medical Society, May, 1913.)

The honor conferred upon me by a request to address your Society is sincerely appreciated.

It is but natural that I have hesitancy in presenting a paper to you as physicians, for a dentist lives and works in such a circumscribed sphere that it is with difficulty I approach a subject which would be both interesting and instructive to the medical practitioner. Nevertheless, I do feel that. while our roads are different ones, they run on parallel lines, and there are crossings and recrossings which bring the two professions close together; and also do I feel that the help and advice of the physician to his patient on dental subjects would aid us. aid his patient, and aid the public in general.

We naturally side by side with the physician, are making advances in all our lines of work. The gold inlay, obviating the necessity of hours of work, freeing the patient from the pain and worry of such work, and attaining results to be reached in no other way; the porcelain inlay, closely approximating nature, and making artistic restorations; the synthetic porcelain, introduced with still more beautiful effects, and with inconvenience to the patient reduced to the minimum; marked advance in Orthodontia, in the treatment of pyorrhoea, in the use of nitrous oxide and oxygen, in its analgesic stages, for the excavating of cavities, the implantation of artificial roots; all these and many more might be enlarged upon, but as they are of special interest to the dentist only, I shall be content in mentioning them.

Ethically, dentistry has arisen by leaps and bounds. We have our charlatans, our quacks, our shoddy workers, with their blandishments, charms and promises to entrap the credulous, as you have yours; but the thorough good fellowship, the readiness both to seek and extend assistance, the eagerness with which we circulate new thoughts, new ideas, and new methods which will aid us and aid the public, prove that jealousy and ill feeling have no place among us.

The one great effort in the making of a better dentistry, and in helping humanity at large, is that of conservation, prophylaxis, oral hygiene. This is working, and will work, such marked changes that the mechanical, reconstructive dentistry of the past will be scarcely recognizable. Old dentistry is going, and the new dentistry, or preventive dentistry, is here, and will become stronger each year.

In this little talk I shall try to cover, as well as may be, some generally known common interests; some known but forgotten or neglected; and, perchance, some new ones.

Oral Hygiene.—It has often been aptly stated that the dentistry of the present consists of a body of educated, skillful repairers, that the vast majority of our time, and what knowledge we may possess is occupied in rehabilitating damaged and neglected teeth. The dentistry of the future will not be one of repairing and restoring, but that rather of prevention.

What is meant by prevention in the dental sense? How may it be accomplished? The statement "prevention" naturally is a relative term; but so is prevention in medicine. Any means which mitigates the ravages of decay and loss of teeth in any manner, may truly be called prevention. We cannot expect perfection; but we may expect the percentage of unclean, disfigured mouths to diminish slowly and gradually. We may also expect the "hoi polloi" to realize that the most logical way to care for the teeth, both from a sanitary and a financial standpoint, will be in preventing, so far as may be possible, the occurrence of trouble. How may this be accomplished? First, by education in the schools, in the homes, in the office; and secondly, in the care and attention to the teeth methodically and carefully by the dentist and patient, from childhood on through life.

The oral hygiene movement has been and is being taken up extensively throughout the country. Germany, perhaps, was in the vanguard. and from their work is patterned the work of the American association, with improvements where indicated. Germany

now provides regularly appointed dental examiners for most of their schools, and salaried practitioners to care for the teeth of the indigent children. A few of the states and cities in this country have taken this matter up; not generally through the authorities of the respective localities, but under the auspices of the state and local societies. The results have been extremely satisfactory. The advantages have been threefold. First, the betterment of the general health of the children; second, increased regularity in attendance at school; third, the decided improvement in classes. The national society has been active also on broader lines. Among their many activities they have had prepared a series of films patterned along the line of the tuberculosis and sanitary movement of the physician, and while these films leave something to be desired from the dentist's standpoint, yet they are displayed in an entertaining manner and give a clean, concise story to the masses. The Huntington Dental Society will secure this film for exhibition locally. Go see it if it comes. You physicians will get a good laugh and needed information.

Again, this educational feature is carried to its very farthest limit in the office of the dentist. After the most thorough cleaning of the oral cavity, the dentist takes a brush and, using it on his own teeth, demonstrates the methods, directions and forces which will most easily and most effectively cleanse the mouth and teeth, following that with the technique of the dental floss. Not one per cent of the people who habitually clean their teeth do it properly. They expend enough time and enough energy, but through misdirected efforts they fail to accomplish results commensurate with those efforts.

How about the mouth washes, dentifrices, powders, pastes and so forth, which are numberless, yea, as the sand of the sea! They have their place and their use when handled intelligently, and are in fact in many cases indispensable. A dentist nationally prominent made the statement that the mouth washes and dentifrices on the market at present did more harm than good. The gist of the statement is true. The man, woman or child who uses the highly flavored, highly scented washes unthinkingly will upon a moment's manipulation with the brush experience a feeling and really believe his teeth are clean from the fact that the mouth tastes pure and wholesome, yet absolutely will fail to accomplish any lasting effects. Let those same people use a brush with plain water in conjunction with a tasteless powder and they will find that the time occupied in accomplishing like results will be extended tenfold. You all know that we cannot incorporate a sufficiently strong antiseptic in mouth preparation which will be tolerated by the tissues of the mouth and which at the same time will have any material effect on the bacteria; so that the main thing to be relied upon, as it is with the surgeon and his hands, is scrubbing, scrubbing, scrubbing until they have become clean by mechanical means.

Now in what way does all this affect the busy physician? Where and in what way are you affected, and if you are affected in what way may you be of help? That is what you want to know. Why should oral hygiene be of any exceptional value to your profession? Inasmuch as the mouth is the portal through which all food must pass, in which it is prepared, both mechanically and chemically, for its reception in the stomach; and furthermore, in so far as such a vast number of the ailments of your patients arise from the inability to properly digest food and in the semi-digested state to assimilate it for the building of tissue and for general nutrition, does it not naturally follow that the better the condition of the oral cavity, the more sound and perfect the grinding apparatus, the better chance the patient has for general metabolic processes? For the mastication of food nature has provided man with a most admirable mechanism. The anterior cutting teeth, the cuspids or tearing teeth, the bicuspids in transition to the molars and the molars for the fine grinding and maceration of food. Nevertheless its perfection is so easily marred that it is, under these conditions, comparable to grinding with a broken millstone. The stomach does not expect chunks of food to be thrown into her vat for the fluids to act upon, but requires it in finely divided condition, well saturated with salivary secretions. Carious teeth, sore teeth, aching teeth and a mouth with teeth missing here and there cannot do the work properly; consequently it is bolted. Along

with this indiscriminate bolting the constant use of water, coffee or some other liquid is required to take the place of the saliva to make swallowing easy and to cleanse the mouth for the reception of more food. You see, under these conditions you have not given nature a fair chance. You have omitted one step and perhaps the most important in the process of digestion.

Among the diseases due to faulty metabolism many of the more prevalent ones are found. Gastritis, billiousness, diarrhoea, constipation, nephritis, disease of auto-intoxication, etc.—all of these are at least lessened in severity and assisted in treatment by the presence of a useable grinding apparatus.

Furthermore, the starchy foods need, before reaching the stomach and the gastric juices, a thorough saturation with saliva. This fluid is excreted and excited to flow to a great extent by the action of mastication and the stimulus of food in contact with the organs of taste. If the teeth are in such a condition that the mere mumbling and bolting of food is all that can be accomplished, it is in no condition for passage to the stomach. Again, the meats and fats need even more and require more of the teeth. They should be in a finely divided condition before swallowing, and with a faulty grinding machine this cannot be expected. While speaking upon this subject I wish to assert that even with a perfect oral equipment some do not and will not, either through habit or neglect, prepare their food in the mouth, but prefer to imitate the cow. Unfortunately, with no ruminating ability, they have to trust to luck and a strong constitution. This may be readily rectified with proper advice and admonition.

Another even more striking and more imperative reason for maintaining a pure, wholesome mouth and sound teeth is the prevention of infection. Decayed teeth, spongy gums, unclean interspaces are harbors for the countless millions of bacteria of every color and nationality. They enter, thrive, reproduce, die, forming by-products which injure the teeth, befoul the breath and in reality form a cesspool of what should be the cleanest portion of the body. The tubercle bacillus, the pneumococcus, the staphlyococcus, the streptococcus, the typhoid bacillus, influenza, diphtheria—yes, practically the entire category—do at one time or another take up their abode in the mouth. Most of the air-born diseases may be traced to the presence of the organism in the mouth. The breath exhales them, the saliva sprays them or deposits them on cup or glass (perchance another's lips).

Now if all these facts are true, as they are beyond a doubt, man is not giving himself a fair chance if he does not do all in his power to lessen these conditions and the consequent dangers. If he is ignorant he must be taught; if he is careless he must be urged; if he will not he must be forced. If a man's mouth in unclean condition is a menace to himself, how much more of a menace is he to the community? He is guilty, his neighbor is innocent, yet they may both suffer. It becomes a question of public health and public benefit. It should not be a question of personal preference, but a question of public policy.

Think, examine, talk, teach, demand; in the home, in the sick room, in the school, in your office and ours. If you do not your treatments are hindered; you are losers in time and reputation and your patients losers to even a more disastrous extent. So much for your help in a general way for the people directly and consequently indirectly helping both yourselves and the dentist.

Another most salient point which I wish to dwell upon and emphasize is the assistance you may give in preventing troubles in the children's mouths. In the home of your patient you are regarded with extreme respect and in many cases adulation. Your opinions have weight and your advice is considered invaluable. You readily know that no one is nearer to the mother of the child and to the child itself than the physician. Just a word of unasked advice on these subjects would be of incalculable benefit and value in after life. None of you fail to advise your pregnant woman of the great necessity for constant care and watchfulness of her teeth. You insist that they be placed in perfect condition by her dentist. Why not as naturally give her some information regarding the care of the little one's teeth when the time arrives? Children's teeth present two phases for the attention of the mother—the intelligent retention of the deciduous teeth until the time

when nature intends them to be removed by the processes of resorption and their places to be taken by the permanent set, and the care of the permanent ones as they appear. Right here at this point, when advising the mother as to the attention due the children's teeth, if I were asked what one fact would stand out most prominently as the most important, I would unhesitatingly answer, "The retention and care of the first permanent molar." Mother after mother will present her child to the dentist with the request that a "baby tooth" be extracted, only to find to her dismay that it is in reality a first permanent molar. This one fact driven, plugged and fastened in a parent's mind would assist mightily in the prevention of malformed mouths and faulty occlusion. They cannot seem to grasp the fact that this tooth is not a temporary or "baby" one, because it did not require the exfoliation of a deciduous one for its eruption. That it erupts back of and independent of the temporary teeth is so decidedly unknown among the laity that this want of knowledge might almost be called universal. You say that this is the dentist's field and his business, but you must realize that in the vast majority of cases of children who enter the office come there only for relief and not for prevention or examination. We do talk to the mothers and fathers and do drive home facts which will save for them and for their children many moments of pain and will make for better conditions in the mouth.

In presenting the statements above I have had in mind principally the oral condition of the normal average man—you, your patients, your children and those of your neighbor. How much greater is the need for attention to the invalids and those entering your hospitals for operation? Are not their needs more imperative? I grant that the patients in every hospital are given the best of attention and are safeguarded in all possible ways. Every ounce of prevention is used against infection, save, I regret to say, in many cases, as to the mouth with its magnificent colony of micro-organism and its swampy breeding ground for reproducing them. Every precautionary measure and means should prevail here. The brush, the scaler, the antiseptic spray, the dental floss, all should be used painstakingly and thoroughly.

In convalescence the patient is perhaps comparatively helpless and unable to properly care for her teeth. I feel assured that after an operation, or after a prolonged illness, no part of the body is left in such a neglected condition as the oral cavity. Many of the hospitals now include a dental staff in conjunction with their regular medical one and use it most advantageously. Bear this fact in mind; see to it that when your patients enter the hospital that all shall be done that is within your power to have them enter with clean oral cavity and insist that regular and competent attention be given them while there.

I stated a moment since that nature required a full complement of teeth and in correct occlusion for perfectly accomplishing the act of mastication. This is a fact. The centrals cannot grind, nor can the molars cut, and when called upon to execute functions foreign to their formation they cannot do them properly.

What I now wish to say is not meant in a critical manner nor in impeachment of your right. Physicians pull teeth or extract them, depending on the type of patient. This custom is not universal nor is the practice sought after. One of your patients comes to your office with the plea of suffering and also with the statement that he does not want to be bothered with a dentist, and furthermore that he has more confidence in your ability (not misplaced in all probability), and requests you to yank the old thing out. You do this unthinkingly and as an accommodation, but it is in reality, in a vast number of cases, an injury. You do not extract for the money there is in it, for, God bless your souls, you are perfectly welcome to that. The cleaning and preparation of the gums, sterilization of your needle, preparation of the anaesthetic, its injection, followed by the more or less easy removal of the offending tooth from its socket and the consequent after treatment—all this generally for the princely sum of fifty cents—is not sought after by the dentist as a source of income nor relished as a pleasure, but simply executed as a duty, and that alone, in such cases. The question is how many savable teeth are

criminally and sinfully extracted, when in all probability, by treatment instead of extraction, the pain could be allayed and the tooth be made useful to the patient for years to come. Generally in such cases they do not need your immediate attention, but instead your advice, and if you are not positive insist that they consult their dentist. Aside from the loss of many a savable tooth your patient and perhaps you do not realize the financial loss. For instance, suppose one tooth is extracted carelessly. I mean by that when it could have been saved by rational attention. The treatment and filling would cost, perhaps, from $2.50 to $5.00 and if necessary to be crowned from $10 to $15. Now, in order to replace this tooth strongly after loss it would entail the disfiguring and weakening of one or two adjacent teeth, with the cost ranging from $15 to $35, depending on the nature of the operation and also depending upon the character of the work. After all this added expense he has an apparatus not comparable to the single tooth which might have been saved, both from an aesthetic and sanitary standpoint. You are not thanked, and the unconscientious dentist is not thanked in after years, but rather condemned for this sort of professional service. Push, don't pull. Your patient will appreciate it as well as the dentist.

Just one more phase of this subject, this help which you physicians may extend to your patients and to dentists. That is the absorbingly interesting specialty of orthodontia. I shall pass for your inspection a number of casts from my cabinets, which will illustrate forcibly what I wish to bring before you. I wish you to hold in your minds three facts, two of which I have tried to impress upon you—that is, that nature requires a correct occlusion for the utmost efficiency in masticating food and also that it requires the full complement of teeth. A third fact I wish you to consider, and when you consider it to appreciate its importance, and that is on esthetic lines. Realize what it means to a child and to its parents for it to have a mouth malformed and a facial outline unpleasant to look upon and in many cases even repulsive. The causes of these disfigurements may be varied, but in a vast number of cases can be prevented, or at least lessened, by advice. Thumb sucking, the use of the pacifier, mouth breathing due to adenoids, constricted nasal passages and the premature loss of the first permanent molar. Repeated injunctions in regard to that important tooth, the first molar, cannot come amiss. I have said that it is the key to the eruption of the permanent teeth, and I will also add that it is the starting point from which all regulating is done, and its loss means an increase in the difficulty in arriving at perfect results.

Almost universally the parent requests that orthodontia work be done with sole aim in view of improving the looks of the teeth and contour of the face. More than this must be accomplished; we must also obtain effective apposition of the teeth for their respective uses. A mother rarely brings an infant in arms to the dentist. You physicians come in contact with them in their homes on various occasions and become more or less acquainted with the habits and idiosyncracies of the child long before the dentist is called upon. Whenever you perceive any act, habit or condition of mouth, nasal or post nasal cavities which would tend or are tending to cause abnormalities in occlusion or the looks of the child advise immediate attention. Had the mothers of many of these little ones, disfigured as they are, received a little help and advice of their family physician, they might have been spared needless expense and the children themselves many untold hours of discomfort and much mortification of mind on account of the unnatural and unpresentable appearance of the mouth and facial outline.

Aside from the effect this narrowed arch and the irregular position of the teeth have upon the child's appearance they also affect decidedly the hearing, breathing, articulation and general mental acuteness.

Summing up the deductions arising from this paper you can easily be cognizant of the results which we may reasonably expect if we strive to educate the people concerning the absolute necessity of constant care and watchfulness of their teeth from the eruption of the deciduous on through life. You can realize where we assist you in your work against constitutional diseases and your fighting the infectious ones.

You can see the relief which your patients may experience from a physical and

a mental standpoint. You appreciate why I ask your aid for us, for our patients in the future and for yourselves.

The army has its dentists. Many mercantile and manufacturing houses have their dentists. Why should not the schools of West Virginia, and of Huntington in particular, have their dentists? It simply spells efficiency in every sense. It means freedom from pain, from anxiety and annoyance, leaving the body and the mind free to work unhampered and unhindered. It turns practically the weakest defense of the human anatomy into the strongest and starts you right with your work and yourself. We wish to secure the physician as working ally; not with a selfish motive, but for humanity. I do not mean a campaign with bombast, flowers, speeches and publicity, but the quiet, dignified, thoughtful attention to these conditions in the homes and in the office. Let the physician, in addition to his clinical thermometer and stethoscope, include a mouth mirror in his equipment. Let him while diagnosing his case, registering the pulse, the respiration, the temperature, the history of the patient, include an examination of the oral cavity with the aid of this little mouth mirror and advise accordingly. You undoubtedly would receive the thanks of the individual, results for yourself and the heartfelt appreciation of the dentist.

DIFFICULTIES IN THE DIAGNOSIS OF BRAIN TUMORS.

By Theodore Diller, M.D., Associate Professor of Neurology, University of Pittsburgh.

In the presence of severe headache, vomiting, optic neuritis and vertigo the diagnosis of brain tumor is usually attended with little difficulty even when the localization of the neoplasm is not indicated by the symptoms. There are, however, many sources of error, so that one must always be on one's guard. Nonne, for instance, reports cases of "pseudo brain tumor," in which the patients presented symptoms of intracranial growth which subsequently disappeared. Bright's disease, pernicious anaemia, cerebral syphilis and even hysteria may be mistaken for brain tumor. Not very long ago I recorded a case in which the symptoms suggested a brain tumor and subsequent investigation seemed to show pretty clearly that they were due to a bad error of refraction.

The first case is that of a woman of about 58 years of age, who for more than a year past had suffered from severe headaches of increasing severity and duration; and who for a few months past had been uncertain in her gait. There was never any vomiting and careful examination of the eye-grounds discovered them to be normal. The laboratory tests for syphilis, including Wasserman examination and examination of spinal fluid were negative.

Here the headaches and great uncertainty of gait were very suggestive of cerebellar tumor; but I was not quite willing to make this diagnosis in the absence of optic neuritis and vomiting remembering that cerebellar tumor was especially likely to produce optic neuritis. As syphilis was ruled out by the laboratory findings, I was somewhat in a quandary as to diagnosis. The patient contracted pneumonia and died suddenly. An autopsy revealed a large tumor fully the size of a hen's egg lying between the posterior aspect of the right cerebellar lobe and the dura mater and only loosely attached to the membranes of the brain and not growing from it apparently but springing from the membranes. The laboratory reported that it was a pure fibroma.

The tumor was, therefore, a favorable one for operation as regards its nature, location and slight attachment to the surrounding tissues.

In the second case, the general symptoms of brain tumor were all absent and the diagnosis was made on localizing symptoms. This case is that of a woman of 53 years of age who had for several months previously suffered from convulsive seizures in the left arm and which were confined to that member and which were never attended with loss of consciousness. There was moderate degree of weakness in this arm and a little loss of power in the left leg. Sensation in the arm seemed normal; but there was a little loss of stereognostic appreciation. The left K. J. was exaggerated but

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*Paper read before the American Neurological Association at its meeting held in Washington, May 5, 6, 7, 1913.

there was no Babinski sign; no clonus, no cranial nerve palsies and no nystagmus. The eye-grounds were perfectly normal. There was no history of headache or vomiting, nor of optic neuritis.

Here was a case of pure Jacksonian epilepsy which was felt might be due to tumor, but also might have been due to some lesion other than tumor. But as the convulsive movements were increasing in frequency it was decided to do an operation which would expose the arm center. This was done by Dr. Robt. Miller, Jr., on January 27th. A tumor was discovered at the upper anterior portion of the opening which appeared to lie about between the first and second convolutions. As the patient's pulse was now very weak the operation was hastily terminated. A week later the wound was opened and the opening in the bone extended in an upward and forward direction. The tumor was fully brought into view and enucleated with the finger. It appeared to Dr. Miller as springing from the falx cerebri by an attachment which he removed. As near as we could make out the tumor laid next the falx cerebri between the superior frontal convolution in the median aspect of the brain, the posterior portion of it reaching to the upper portion of the precentral convolution. The patient made an excellent recovery from the operationtion although immediately afterwards her face was paralyzed as well as the arm and leg. In a few days the paralysis in the face began to clear up and the latter soon resumed its normal functions. A little later some power returned to the leg which is now (March 22) steadily gaining in strength. The arm remained paralyzed completely for a period of six weeks, at the end of which time the patient was able to move it slightly.

The tumor appeared hard and nodulated and not firmly attached except at one point referred to. It was 5 cm. long, 4 cm. in breadth and 2 cm. in thickness or depth. The microscope showed it to be an endothelioma of vascular type.

Here then is a case of brain tumor so situated as to involve the superior frontal convolution and probably the upper portion of the motor area of the cerebrum producing neither headaches, vomiting nor optic neuritis but which did produce localized convulsive seizures of the arm whereas according to our scheme of localization it should have produced convulsions of the leg instead. Can some member of the Association offer an explanation for the symptomatology and the lack of symptomatology in this case?

The third case is one of tumor at the ponto-cerebellar angle presenting symptoms wihch are interesting for two reasons: Because although the 5th, 6th and 7th nerves were directly pressed upon there was no paralysis of these nerves, but chiefly because the laboratory findings seemed to indicate syphilis and I was misled for a time by them.

The case is that of a man of 50 years of age who has for several months past suffered from headaches which had grown more severe and had become more frequent. He also suffered from dizziness and his gait was somewhat uncertain. A slight optic neuritis was discovered by Dr. Weisser. The examination of the cranial nerves discovered no paralysis or deafness. The symptoms pointed pretty strongly to cerebellar tumor. An examination of the spinal fluid was made and the following report furnished:

Cell count	130
Endothelial cells	10
Red blood cells	33
Large lymphocytes	47
Small lymphocytes	46
Polymorphonuclear cells.	6

The Noguchi test was strongly positive. The Wasserman test was negative. It will be noted that the report indicates one-third of the cells were blood cells. But even after allowing for these cells the count was high and the Noguchi test was positive. It was, therefore, concluded to give the patient a course of specific treatment. We at first thought of giving him "606," but this was deemed unwise on account of the eye condition. He was given a vigorous course of mercurial inunctions. He made no improvement and after a few weeks left the hospital.

Later he came under the care of Dr. Acheson Stewart at the Mercy Hospital, who made the diagnosis of brain tumor and did a decompressive operation. The patient was relieved for a time; but died a few weeks later.

The autopsy revealed a tumor the size of a walnut situated at the ponto-cerebellar angle on the left side pressing deeply into the pons just over the region of the fifth nerve and also pressing downward over the region of the 6th, 7th and 8th nerves. The tumor was hard and appeared to spring from the membranes.

A lumbar puncture was done at the Mercy Hospital and the findings were almost identical with those of the St. Francis Hospital, viz., cell count 120, positive Noguchi and negative Wasserman.

This last case raised two or three interesting questions. The first one is whether the laboratory findings could really be interpreted as indicative of syphilis in the presence of a negative Wasserman, even though the Noguchi was strongly positive and the cell count high. I recall in two previous cases of brain tumor the laboratory report of examination of spinal fluid indicated high cell count. I suppose we must accept the recommendation of Karpus to the effect that the laboratory findings must not be allowed to entirely settle the diagnosis and that the clinical findings must always receive due consideration and that where they are strongly indicative of certain diagnoses the laboratory findings should not be permitted to upset them.

The fourth case is one of a man of 29 years of age who came complaining of headaches which he had had for four years and which for the last five months had been severe and almost continuous. He also complained of severe intermittent pain in the region of the perineum. The eyes showed a marked squint. Although he did not complain of vomiting or optic neuritis the diagnosis of brain tumor at once suggested itself to my mind.

Further examination showed that the eyegrounds were practically normal and that the squint had existed from childhood. Examination of the rectum and the perineum revealed nothing abnormal. Examination of the blood, urine and spinal fluid were negative. The patient was sent to the hospital for observation. Here he was extremely emotional and his manner strongly pointed to the diagnosis of hysterical headaches.

I recall one other case of extremely severe headaches in a woman, which for a time suggested brain tumor even in the absence of vomiting and optic neuritis. Further observation of the woman brought out the fact that she was extremely emotional and more and more the fact became apparent that the headaches were functional or hysterical and the diagnosis was revised accordingly.

However, this patient subsequently went over to the camp of Mrs. Eddy and the revised diagnosis was not given by the Eddyites and my original diagnosis was stated and the case quoted as another "cure by Science and Health" of an organic disease of brain tumor so diagnosed by a Pittsburgh neurologist. It is perhaps needless to state that the patient made an excellent recovery, under the Eddy system and became serenely happy.

To recapitulate, we have here three cases of brain tumor presenting diagnostic difficulties. In the first case a very large tumor exists in the posterior fossa pressing on the cerebellum between the posterior cerebellar lobe and the dura and producing headaches and staggering, but neither vomiting nor optic neuritis. The second case is one of tumor in the right superior frontal region on the median aspect of the brain extending back posteriorly to the upper portion of the pre-central convolution and which produced convulsive movements of the arm of the Jacksonian type, but not one of the general symptoms of brain tumor—headache, vomiting, optic neuritis or dizziness. In the third case with headaches, dizziness, uncertainty of gait and slight optic neuritis, a cerebellar tumor was indicated even in the absence of the involvement of cranial nerves. When the laboratory report of the blood and spinal fluid was interpreted as indicative of syphilis it was felt that these symptoms could be explained on the theory of cerebral syphilis and anti-syphilitic treatment was inaugurated. The last case shows that functional headaches may be somewhat suggestive of brain tumor. In such cases the diagnosis is pretty sure to be cleared up by adequate observation and investigation.

BE GOOD FOR SOMETHING.

Square thyself for use. A stone that may
Fit in the wall is not left by the way.

—Persian Proverb.

THE PULSE.

By Charles O'Grady, B.Sc., M.D.

(Read at Annual Meeting of State Medical Association, May, 1913.)

Not many years ago we heard only the neurogenic theory of cardiac action, but in the last decade we hear more of the myogenic theory of the heart's action. However, a careful study of these theories will lead one to believe the truth lies between them; that the heart is controlled by the nervous system to a certain extent and the heart muscle has inherent power in itself to do certain work. No one can deny the action of the vagus and the accelerator nerves, which are central; also the vasomotor control exerted through the elasticity and contractility of the blood vessels, while the studies of Makenzie, Gaskell, Wenkebach and Englemann prove the heart muscle possesses the powers of rhythmicity, excitability, conductivity, contractility and tonicity. The ordinary method of counting at the wrist and listening with the stethoscope and estimating its strength or weakness, slowness or quickness, and whether it is hard, full, soft, irregular or intermittent, will probably of necessity be used by the clinician, while his more fortunate confrere in the hospital will depend on the sphygmograph and the electrocardiogram. These instruments have been found of exceeding value, especially the latter, in the more obscure forms of irregular rhythm. The normal pulse in adults beats from 65 to 85 times per minute; in the old it will beat from 70 to 90 times per minute, while in young children it will beat from 95 to 120.

A slow pulse—bradycardia or pulsus rarus—is a pulse below 50 beats per minute, and in some subjects is normal and persists through life. Care should be taken that all the heart beats are carried to the wrist. Bradycardia seems to be normal in pregnancy, but the urine should be carefully examined and uremia or other cause of eclampsia carefully eliminated. It is found in hunger and sometimes in old age. Athletes and those at hard physical labor have a slow pulse; patients with chronic interstitial nephritis, in fact, any disease that increases the blood pressure generally slows the pulse. Arterio-sclerosis slows the pulse, as does nicotin and lead poisoning and abdominal colic. In convalescence from the acute infections, as diphtheria, pneumonia, typhoid fever and rheumatism, we have a slow pulse, probably from the condition of the heart muscle. This slowness passes away as convalescence progresses. It is found in chronic gastritis, ulcer and cancer of the stomach and in jaundice. It is found in myocarditis, in uremia, in anemia, chlorosis and diabetes. Conditions which increase the pressure within the skull always produce a slow pulse, as cerebral hemorrhage, cerebral tumor or exudation of fluid within the brain. Finally, coronary sclerosis and stenosis of the aortic and mitral valves and the action of digitalis produce a slow pulse.

Now a quick pulse in moderate grades is called variously pulsus frequens, palpitation, and the severe form is called tachycardia, in which the pulse often beats from 120 to 200 per minute. The cause of tachycardia may be a pure neurosis, as are those of palpitation, namely, neurasthenia, the gastric diseases, especially those of nervous origin, and diseases of the uterus and ovaries. Menstruation and the menopause sometimes are the cause of a very quick pulse. Hyperthyroidism is another frequent cause of tachycardia, especially in women. You need not have a well developed goitre for this to be the cause. The thyroid gland oversecretes during menstruation and pregnancy, and if to this is added a highly emotional life of receptions, theatres and other social functions the heart soon tells. In well developed cases of exophthalmic goitre the physician should advise operation before myocarditis develops, as the mortality is usually from this cause, and from one-half to two-thirds of the gland should be removed. Other causes of tachycardia are large doses of thyroid extract, fright, lesions of the medulla and the vagus.

A reasonable degree of quickened pulse is physiological after eating, physical exertion and physical irritation. A quickened pulse may be said to be pathological in all the infections, where there is an increase of about eight beats per degree of fever. And in phthisis we usually have the quickened pulse without the fever, while in typhoid fever, especially in the beginning, we

often think the pulse is not high enough for the fever. Paroxysmal tachycardia has been described as a separate disease, a neurosis of the heart. Usually without any apparent cause the patient's pulse will rapidly mount to 120 or 200 beats per minute, and this condition will last from an hour to a day. Some patients will complain of weakness or shortness of breath, while others will have no symptoms and it will pass off as quickly as it came. Rarely does a patient die of this disease. Osler, quoting Lea, says it is a hyper-excitability of some focus in the cardiac musculature.

The subject of arrhythmia is enough in itself for a book, and just a short description of the principal forms can be given. The authority par excellence on arrhythmia is Dr. James Makenzie of Burnley, England. Respiratory arrhythmia is a quickening and slowing of the pulse which occurs with the phases of respiration. It is occasioned by a prolongation of the diastole. It happens with a slowing of the heart and a slow respiration and is attributable to an irritation of the vagus nerves. It is lessened or dissipated by atropine and increased by digitalis, neither of which drugs affects continuous irregularity. It occurs in the adolescent and is of minor significance pathologically. The next form of arrhythmia is caused by extrasystoles and is known by the intermittency of the pulse. There are three forms, caused by auricular extrasystoles, ventricular extrasystoles and auriculo-ventricular extrasystoles. The majority of cases of arrhythmia are caused by extrasystoles and are due, to use the words of Makenzie, to "premature contractions of the auricle or ventricle in response to a stimulus from some abnormal point of the heart, but in which otherwise the fundamental or sinus rhythm of the heart is maintained."

Extrasystoles occur in various conditions and are not serious symptoms in themselves. They occur in neurotic subjects in toxic conditions in the infections and in various forms of acute and chronic diseases of the heart, especially those with hypertension.

The next form of arrhythmia is continuous irregularity or the absolutely irregular heart. This is known by irregularity in the force equality and sequence of the pulse beats. The cardiac action may be extremely rapid, as delirium cordis, temporarily rapid and rarely slow except from digitalis, and this does not stop the irregularity. The cardiac phenomena are similarly irregular by auscultation. Many of the systoles are not followed by second sounds and may occasion no palpable pulse at the wrist. This is a serious condition and is found in all forms of heart failure and dilatation. It is usually found in the rheumatic heart and the fibroid heart and those with mitral stenosis. Heart block partial or complete is another form of arrhythmia caused by disease or irritation of the bundle of His, which is the connecting path between the auricles and ventricles. Partial heart block may be caused by the infectious diseases and is only temporary. Complete heart block is known as the Stokes-Adams syndrome and is a serious malady and ultimately fatal. In the complete form the auricles and ventricles may act entirely independently. You may find a radial pulse of 40 or 20 or even 10 beats per minute giving the ventricular rhythm, while the veins of the neck will show the auricular rhythm to be about the normal of 70 or 80 beats.

The alternating pulse is the last form of arrhythmia. It consists of a regular succession of small and large pulse waves and is caused by depression of contractility. It is a very serious symptom and is usually found in exhaustion of the heart muscle from advanced mitral stenosis, coronary sclerosis, general arterio-sclerosis with high blood pressure, angina pectoris and fibroid heart.

DERMATOLOGY IN LONDON.

W. S. Robertson, M.D., Charleston, W. Va.

Last August I met in London an American physician fresh from Berlin and Vienna, where he had been studying dermatology for several months, who expressed it as his opinion that there were no skin clinics worth seeing where I was, and that if I wanted to learn anything about cutaneous diseases I should go on the Continent. This was rather disconcerting to me as, so far as my limited experience would let me judge, I had been in the right place at the right time, and now to be told

I had wasted three months of my trip was anything but comforting. However, the unrest soon gave place to my former contentment after I thought over the situation.

Let us briefly run over what London has to offer the student in dermatology. The city has a population of about eight million and probably a greater percentage of paupers than any other city in the world. It is to be noted that the larger proportion of skin diseases dependent upon constitutional depravities, infections and parasites occurs among the poor. London having this class in such numbers, it is evident offers a larger exhibition of these conditions than can be found elsewhere. Further, the poor are not the only patients to be found in the dispensaries, but many of the less needy present themselves for treatment, hence there must necessarily be found in London a greater and more diversified quantity of clinical material than any other center affords.

The number of hospitals is legion. I had occasion to visit not more than twenty. Each of these exhibits anywhere from fifty to several hundred cases each "skin" day. At some hospitals there is a daily clinic, at others on alternate days, and at still others only twice a week. One may so arrange a schedule that he may visit a different hospital each morning and afternoon for two weeks or longer before he has to "repeat." So there is the very great advantage of seeing the methods of many clinicians and of hearing their opinions on the etiology, therapy, etc., of the various dermatoses. And it is extremely interesting to see how these differ and should be beneficial to the student after the first confusion is over and he begins to make an occasional correct diagnosis himself. Again, it frequently happened that there was no other visitor at the clinics than myself, rarely more than two or three, and so the cases could be examined at leisure from head to foot and doubtful points fully explained. It is a pleasure to remember that no question was ever asked that was not courteously and fully answered. In addition to the clinical facilities lectures on any or all subjects relating to dermatology may be obtained.

As mentioned before, there are many hospitals with excellent skin clinics. While they are all well worth attending, the five presenting the largest number of cases are the Prince of Wales, St. John's, the London, the Middlesex and Blackfriars. If there were no others these should be sufficient to satisfy the most eager and untiring dermatologist.

No dermatology in London! It is enough to make Crocker and Jonathan Hutchinson stir in their graves. What about Pernet, MacCormac, McLeod, Pringle, Whitfield, Meachen, Sequeira, Malcolm Morris, Adamson and tens of others who might be mentioned? What must be said of these men who are authors, teachers, keen observers, brilliant diagnosticians, accurate therapists, masters of gross and histopathology, trained laboratory experts, energetic research workers, originators of invaluable ideas and methods and discoverers of scientific truths accepted throughout the world? To whom does dermatology owe more than to these? It is an enviable privilege to rub elbows with such men day after day, to say nothing of the educational value of such contact.

At a later date I was in Berlin for courses in urology. While there I visited what are said to be the three best skin clinics, namely, Lesser's clinic at the Charite, Wechselmann's and Buschke's at the Virchow Kranhenhaus, and the private clinic of Max Joseph. There is nothing but praise to be said of each; however, I wish to make the following observations in comparison with the English clinics: Berlin does not offer as many skin patients and no greater variety of cases; there is no skin therapy in Berlin that is not employed by at least some of the dermatologists in London; the methods of diagnosis are the same in both cities; there is much confusion in the German clinics owing to the number of students, visitors and assistants, and this seems to me a serious handicap; there was no dermatosis shown at any time which had not been seen in London. In view of these facts how can any one maintain that the best skin work is to be gotten on the Continent?

The past summer was a particularly favorable time for study in London, not only in dermatology, but also in the other branches of medicine, on account of the convening of the International Congress of Medicine. There were several hundred skin cases exhibited before the Section on

Dermatology, each of marked interest and in one of the following groups: (1) unusual manifestations of common diseases, (2) cases of extreme rarity and (3) cases for diagnosis. It was a rare treat to see and hear the visiting dermatologists wrangle over the last group; *tot homines, tot mentes.* Not a great deal of illumination was thrown on these unlabelled conditions by the Continental specialists.

The student in dermatology can make no mistake in going to London first; if he is able to visit the Continental clinics later he should by all means do so, but if he cannot learn cutaneous diseases in the world's metropolis the fault must lie with him; it is not on account of any lack of opportunity there.

Selections.

THE VACCINE TREATMENT OF WHOOPING-COUGH.

E. Mather Sill, M.D., Attending Physician Diseases of Children, Good Samaritan Dispensary; Lecturer Diseases of Children, New York Polyclinic Medical School and Hospital, New York.

This author, in *American Journal of Diseases of Children* for May, 1913, speaks of the organism of pertussis, which several investigators have claimed to have discovered. He seems to attach more importance to the claim of Bordet, and after some discussion of this subject thus writes of the treatment of whooping cough:

Until the time I began the vaccine treatment my best results had been obtained from the use of antipyrin combined with sodium bromid, given for one week, alternating with quinin bisulphate given for one week at a time, 2 grains of the antipyrin and 5 grains of the sodium bromid being given every four hours to a child of 3 to 6 years of age, while in infants from 6 months one-half grain of antipyrin and 2 grains of sodium bromid, the dose being slightly increased up to the third year. From 8 to 16 grains of quinin bisulphate per day were given alternate weeks, and all patients were told they should constantly wear a tight binder. This treatment is advocated by Kerley. Besides the above-mentioned treatment, malt and cod-liver oil were given during the spring and winter months. Although the cases improved steadily, the paroxysms decreasing in severity and number, the vomiting became less, under the use of these therapeutic agents, even the mild cases lasted from seven to twelve weeks and the severe cases longer.

VACCINE TREATMENT.

Thirty-three cases of whooping-cough were treated with the pertussis vaccine, and in all the effect of the vaccine was to diminish markedly the number and severity of the paroxysms and the amount of vomiting.

Absolutely no untoward effects from the use of the vaccine were noted. There were no complications in the cases in which the vaccine was used. No abscess formation, or even slight temporary inflammation or swelling at the site of the injection, and no general constitutional symptoms occurred. The longest time any of the children coughed was twelve weeks and four days. The longest time any child coughed after it was put under vaccine treatment was nine weeks and one day, the average length of time being four and one-half weeks. The injections were given every two or three days in most of the severe cases, and in the very severe cases every day for a few days, until the symptoms were relieved; the milder cases did not receive the vaccine so often nor so much at a time.

In giving the vaccine I was guided more by the severity of the disease than by the age of the child. The youngest child treated was 1 month old and the oldest was 6 years. Most of the children were from 6 months to 3 years of age. The dose of the vaccine varied according to the number and severity of the paroxysms, from twenty million bacteria in the mild cases to sixty million in the severe cases.

The cases that were seen early in the attack, before the paroxysms had attained their height, seemed to respond more quickly to treatment and their course was shorter. In all cases, however, after one to three injections, the number and severity of the paroxysms was markedly lessened.

Some children seemed to respond better to treatment than others, and I attribute this to the fact that the dosage was given irrespective of the age; therefore, the younger children got a larger dose propor-

tionately, and as a rule these latter were the ones that responded most quickly to the vaccine and had the shortest attacks after treatment was begun. This fact is important, since (heretofore) these young babies are so apt to have pneumonia complicating or accompanying pertussis, with fatal results.

It was found that the children did better when the vaccine was given in moderately large doses at frequent intervals of one or two days. A good example of this is Case 30, a child 14 months of age, which received 220,000,000 bacteria or about forty million at a dose, about every two days for two weeks. This child had been coughing and vomiting for two weeks and was cured in two weeks, the vomiting having stopped on the ninth day after treatment was begun. Another very severe case was Case 31, a child a year old that had from twenty to twenty-four paroxysms during the day and as many or more at night, with a great deal of vomiting. This child had been coughing for six weeks when it came for treatment. Forty million bacteria were given about every three days, 320,000,000 in all, in four weeks, the time it took to effect a cure. Case 32 is a somewhat similar case, although an older child with paroxysms not so frequent; it got the vaccine every two days for three doses and then for every three days.

Case 20 was put on the vaccine at once and was ill for only two weeks and one day. Only sixty million bacteria were given, in three doses, but the child was only 7 months old.

The pertussis vaccine, at my suggestion, is now being put up in bulbs of fifty million to the c.c., and I believe the results with this more concentrated vaccine and the larger dosage ought to give considerably better results than I obtained, since in a number of my severe cases I found that forty million to sixty million bacteria at each injection were necessary to control the paroxysms and bring relief, and my opinion was confirmed that larger doses should be given and would effect a more rapid cure. The correct dosage for the mild cases is fifty million bacteria given every other day, while in the severe cases this amount should be given every day, or one hundred million every other day. The vaccine is given under antiseptic precautions, subcutaneously, with the ordinary glass syringe, the injection being given in the abdomen or buttocks.

PROPHYLAXIS.

A very interesting fact is that prophylactic treatment was instituted by giving immunizing doses of pertussis vaccine to children in a family in which one of the children was under treatment for whooping-cough. These children were watched over a period of two months, and although they had never had whooping-cough and were constantly exposed to the disease, did not contract it. It would seem, then, that the vaccine confers immunity to the child injected with small doses. One child of 5 years was given four injections of twenty million bacteria each, over a period of one month; another in the same family, 3 years of age, got nine injections of twenty million each, over a period of one month; neither child developed pertussis.

Ladd reports nine cases of pertussis which he treated with vaccine, beginning with rather small doses and running up to twenty million, and in four cases to forty million bacteria at a dose, to babies 9 months of age. A minimum interval of five days was allowed between the injections, but in some cases the interval was lengthened to ten days or two weeks or longer. As a result of his investigation he concludes that in another series of cases he would give larger doses at shorter intervals.

When we consider how many of these cases of whooping-cough drag on for weeks or months and how many cases in infants terminate fatally from complications, it is not too much to say that the vaccine treatment of this disease should ever be in our minds and should be given a fair and thorough trial and should also be given as a prophylactic measure to immunize children exposed.

A STEP TOWARD THE CONQUEST OF SMALLPOX.

LONDON, April 15, 1913.

To the Editor

AMERICAN MEDICINE:

I am permitted by Sir E. Wright to repeat some facts he gave me in a recent conversation. He has recently received information to the effect that the injection

of anti-streptococcic and anti-staphylococcic vaccines in the early stages of smallpox prevents the later pus infections which are the real causes of death. Indeed the cases thus treated are so mild, even in those who have not acquired the slightest immunity against smallpox by Jennerian vaccine, that it is scarcely recognized as smallpox. Freed of its coincident pus infections, it might almost be called as benign a disease as chicken-pox, so slight is the suffering and so few are the deaths. He says that if this means of treatment had been known in Jenner''s time the opposition to vaccination on the part of the medical profession might have prevented the adoption of the system of immunizing by a modified smallpox or vaccine. Smallpox might now be considered a curable disease with no after effects and possible of complete elimination. Moreover if an infant is first given a proper dose of the two vaccines, anti-streptococcic and anti-staphylococcic, and then given a Jennerian vaccination, the latter is entirely free of any signs of inflammation and gives no discomfort, at least a negligible one.

Finally, if calves are first immunized in this way against the staphylococcus pyogenes aureus and the streptococcus, they do not develop any signs of inflammation around the vaccinia vesicles, which, I understand, will dry up in the seious stage and not go on to the production of pus. Such lymph is practically free of pus organisms.

Perhaps all these facts have been reported in America, but in case they have not, I hasten to send the news in order that the matter may be tried out and if proved correct, be put to practical use at once.

It has long been known that vaccine which has been heated will cause a skin reaction but the experiments of von Pirquet and others now show that a sterile Jennerian vaccine will cause a skin reaction only in those already immunized to vaccinia, and this reaction may be mistaken for a successful vaccination or "take." It has also been found that if an unprotected person is vaccinated every day for eight days, the several inoculations are progressively more rapid in developing and all mature at the same time. The significance of this phenomenon is not quite clear unless it indicates a negative phase during which the system opposes less and less resistance to the invading organism of vaccinia.

As a side thought, it was suggested that when calves are first immunized against pus, the vaccinia subsequently given to them produces no discoverable suffering and so little inconvenience that the anti-vivisection cranks have positively nothing to complain of.—*X. Y., in American Medicine.*

TREATMENT OF TYPHOID FEVER.—Dr. O. H. Brown gives the following as his Summary and Conclusions:

1. The ideal prophylactic treatment of typhoid is the proper disposal of human excreta. Inoculation of dead typhoid bacilli is of very great importance in preventing typhoid and should be used wherever there is suspicion of danger.

2. Inoculations of dead typhoid bacilli are of pronounced benefit in dealing with typhoid carriers and preventing relapses during the course of an attack of the illness.

3. A specific serum of practical value is yet to be found. The results thus far obtained are encouraging.

4. Frazier has recently reported that he aborted 6 cases of typhoid fever with large doses of ipecac administered in salol-coated capsules.

5. The diet in typhoid fever should consist of a small amount of protein, a small amount of fat, and a large amount of carbohydrate. The preferable protein food is milk and albumin water. The preferable fat is cream, and the preferable carbohydrate is lactose. A pound of the latter may be administered in twenty-four hours.

6. The above diet should reduce the grade of toxemia and should maintain the patient's weight and should therefore increase his immunizing power.

7. The typhoid patient should be regularly given copious supplies of water. Cracked ice may be taken continuously during waking hours.

8. Pyrexia may often be controlled by keeping the patient in a cold room where the air is kept moving, and by keeping the patient very lightly covered. Arms and legs may require heavy covering.—*Interstate Medical Journal.*

DRUGS IN TUBERCULOSIS.

It must be evident upon reflection that drugs are a means of cure as essential and as divinely appointed as any other agency for restoring health. They have certainly—as much as anything is certain—been put in nature to be studied and used intelligently; and medical science has systematized and formulated knowledge of them. But it is absolutely necessary that, in tuberculosis at least, they shall not be used haphazard. The uses of them are matters wherein lie wholly within the physician's province—particularly as regards this disease. Especially must any drug which spoils the appetite or the digestion be discontinued. JOHN BESSNER HUBER, A. M. M D.,

G. D. L.

The West Virginia Medical Journal

S. L. JEPSON, A.M., Sc.D., M.D., *Editor.*

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WHEELING W. VA., DECEMBER, 1913

THE JOURNAL is issued on the first of each month.

Subscription, - - - - - $1.00 per year
Single Copies, - - - - - - - 15 cents

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Editorial

BABIES V.

The doctor in his semi-sacerdotal character can on almost any occasion go into the homes of rich and poor alike and broach and discuss subjects relating to the most intimate and private domestic affairs without any seeming impertinence or presumption, something that most other persons cannot do, especially those coming from charitable organizations or public service departments. The poor, out of their sensitiveness, resent in a particularly embarrassing degree such tender of advice or aid as seems to grow out of the assumption that such is needed by reason of their poverty. But the doctor's kindly talk and advice do not or should not excite a feeling that it is tinctured with any such unpleasant suggestion. He can explain to them how the baby's food and nursing bottle should be prepared and kept: can help contrive ways and means of doing it. He can talk about the baby's clothing, explaining why it is too snug here or too loose there: telling what weight of goods is best for this or that kind of weather. All these things he can do and do them without that "institutional" air that clings so persistently to the average settlement or charitable worker. With the doctor they do not feel that they are simply "cases," to be reported and catalogued at headquarters and have their needs and domestic affairs discussed by executive committees in regular weekly or monthly meetings. Their natural and commendable desire for privacy in the intimate concerns of their domestic life is rudely piqued when that privacy is invaded and their domestic affairs exposed, no matter how commendable or philanthropic the occasion for it may seem to be. It requires diplomacy of a high order to succeed in such work. It is not enough to be actuated by feelings of commiseration for suffering humanity in general. The unlooked for entrance into the domestic circle of the smug, sleek, well fed and well groomed visitor from the social center, to be gazed at and listened to with stolid indifference or half resentful toleration, is not the picture we are trying to draw of the truly effective helper.

And now let us offer some observations on baby hygiene in general. As to its bodily care, it should be kept clean, its clothing as well as its body. It should not be allowed to lie in soiled napkins or with bibs saturated with regurgitated food. Clean water and mild unirritating soap for its delicate skin, and not too much of the generally present dusting powder. The clothing should be seasonable; warm in winter, cool, that is to say, thin and light, in summer. It should fit loosely, so that there be no restriction of thoracic or abdominal movements. There is no article of dress more useless and in many instances more harmful than the abdominal band. It is almost like sacrilege to raise a voice against it, so ingrained is the custom of swathing babies in it. Its supposed virtues are that it protects from colds in the chest or bowels; that it supports and strengthens the baby's back; that it prevents rupture. It does help to keep the body warm, but it does neither of the other things. A loose knit shirt is very much better for warmth. As a back support it is both useless and needless, and as to rupture it prevents none, but probably causes many. It is usually put on so tight that the chest cannot ex-

pand sufficiently for the needs of respiration, nor the abdomen enough to accommodate a full meal. Its pressure upon the abdomen forces the bowels into whatever nook and corner they can escape into, and tends to force them into the inguinal rings and so predispose to rupture in after life. They are nothing but an abomination and should be discarded. (The senior editor gave vigorous expression to this idea several months ago). The skirt-band should be loose, loose enough to allow the whole hand, not the two fingers, to be slipped easily under it. Little shoulder straps will keep it from slipping down. In hot sultry weather scarcely any clothing is needed. In the heat of the day take pretty much everything off and let the baby enjoy such comfort as it can get. Do not wrap it in flannels at such times. Think how you would like that yourself. Give it fresh air in abundance. If well protected the sleeping crib, basket or cot can be placed in the open air in almost all weather. As to food, let nothing but the most dire necessity deprive the baby of the mother's breast. If, unfortunately, this must be done, there are many ways by which milk and prepared foods may be made to answer. It is a good plan to feed the baby whenever it is hungry and give it all it wants. Sometimes, not often, some modification of times and quantities is necessary. Babies properly cared for, properly clothed and properly fed, unless ill, are almost always contented and happy. If they are otherwise something is the matter Fretfulness and crying are not indulged in just for the fun of it. When either occurs try to find the cause. Hunger or pain or discomfort of some sort exists, you may be very sure. If hungry, feed it. If pained, try to locate and relieve it. If the pain is internal, medical treatment is needed; if external, look for pins, wrinkles in the clothing, excoriations of the skin irritated by the discharges, constricting bands, etc. If only fretful, see if its feet are cold, if it is wrapped up too snugly, so that it cannot move or stretch its arms and legs freely enough. It may be too warm; its bed may be hard or lumpy; it may be sleepy; it may have been lying too long in one position and need turning over; it may even need a drink of water. If an ordinary inspection fails to discover the trouble, strip it to the skin, lay it naked on the bed, spread sufficient covering over it to keep out the cold and see how that will do. If it is too warm, as is often the case in the hot days of summer, a cool sponge or bath frequently through the day will help immensely. These suggestions do not cover all the ground, but they serve to indicate in a general way how the baby's discomforts may be found and banished. Farewell, Babies. L. D. W.

OUR HYGIENIC LABORATORY.

As most of our readers know, the State Board of Health was authorized, by the amendments to the health laws passed last winter by the legislature, to establish a State Hygienic Laboratory. At the meeting of the Board in July a committee consisting of Dr. W. W. Golden, President; Dr. J. E. Robins and Dr. S. L. Jepson, Secretary of the Board, was authorized to establish this laboratory. A few weeks ago Governor Hatfield, feeling a deep interest in this proposed institution, accompanied the committee to Morgantown and there visited the different departments of that institution of which the committee thought that it might make use in connection with the new laboratory. After going over the field carefully, conferring with Dr. Simpson, the dean of the medical faculty; Prof. Whitehill of the chemical department and Prof. Arkin, bacteriologist, it was concluded that with the addition of an assistant in chemistry and one in bacteriology and by the purchase of some additional needed equipment the laboratory can be more quickly put in efficient working condition and with less expenditure of money in connection with the University work in Morgantown than at any other point in the State. It was therefore determined to establish the laboratory in that city, and the employment of the two additional men was authorized and Dr. Simpson, who will be ex-officio Director of the laboratory, was authorized to seek for two good men to fill the new places. It is hoped that by the first of the year the laboratory will be fully equipped and ready for work.

It is well to remember that this laboratory is established for the sole primary purpose of promoting the public health by investigations which will throw light upon the cause of disease and aid in its prevention. Fol-

lowing out this idea free examinations will be made of suspected water, of swabs from the throats of suspected diphtheria cases, of sputum for diagnostic purposes, and aid will be given in the diagnosis of typhoid fever, malaria, rabies, etc. Suspected impure foods and drugs will doubtless in time be subjects for investigation. No doubt also arrangements will be made to assist the physicians in the diagnosis of other diseases of a less public nature, such as syphilis, gonorrhea (latent) and certain blood diseases, for which a reasonable charge should be made.

It will be readily seen that an institution of this character is greatly needed in the State and will be of immense benefit not only to the State at large, but also to individual physicians in their private work, if they will only make free use of it. In looking over the last report of the Ohio State Board of Health we find the following work of the laboratory of that state reported for the year 1911: Examination of diphtheria, 630; tuberculosis, 2,355; typhoid fever, 806; malaria, 15; rabies, 121; water, 1,086; sewage, 90; miscellaneous, 265. Total, 5,368. This indicates that the work of the laboratory is by no means light and the benefits to be expected are quite large.

As soon as possible regulations for the conduct of the laboratory will be formulated and issued for the use of physicians and others who may desire to make use of this new institution. At present all applications for information concerning the laboratory or the work to be done by it will be directed to the Secretary of the State Board of Health. S. L. J.

ANOTHER VICTORY.

In our October issue we referred to an epidemic of suits for alleged malpractice in the territory of the Barbour-Randolph-Tucker Medical Society, and mentioned the fact that two of these suits that recently came to trial ended in a vindication of the physicians concerned. We are now glad to add one more to this list of victories. The case was against Dr. Golden, tried last month in the circuit court of Randolph county before Judge Warren B. Kittle. A very brief outline of the case, from a physician who was present as a witness, is as follows: The plaintiff fell from the top of a carload of logs as it was passing over a high trestle, making the height from which he fell at least 25 feet. He landed upon a rock with his right wrist, the entire force of the fall being spent upon it and the forearm and elbow, the remainder of his body escaping without the slightest injury. He sustained a compound comminuted fracture of the lower ends of the radius and ulna and some of the carpal bones, with very extensive crushing injuries to nearly all of the soft structures and joints at the wrist, and a dislocation and fracture of the elbow, with much damage to the soft tissues there. Six hours after the injury occurred, during which time the only treatment he received was at the hands of his women folks at home, he was brought to Dr. Golden by his home physician for an amputation of the forearm. With the spirit of a true surgeon Dr. Golden preferred to make an attempt at conservatism, and after much painstaking hard work he succeeded in saving the entire extremity. This occurred about sixteen months ago, and now for nearly a year the plaintiff has been working as a fireman on a locomotive, using that very hand very efficiently to handle a coal shovel. But the wrist is stiff and somewhat deformed and the tendons of some of the fingers are not as free as they used to be; and therefore the plaintiff claimed damages to the amount of fifteen thousand dollars. The trial lasted three days, and at its conclusion the judge directed the jury to bring in a verdict for the defendant. Before rendering his decision Judge Kittle analytically reviewed all the testimony in the case and discussed the laws governing such cases. A number of prominent physicians from different parts of the State who were present at the trial report that the judge's discourse was a masterpiece of logic and an exhibition of a phenomenal memory. We may have more to tell about this case in a future issue. In the meantime we congratulate Dr. Golden and the profession of the State upon this victory. S. L. J.

"The United Doctors," who have achieved a fame and reputation to which, such is its character, few practitioners would aspire, and who have offices in different parts of this State, have in Wheeling two licensed physicians in their em-

ploy whose licenses were revoked by the State Board of Health at its July meeting for "dishonorable conduct." The case was appealed to the Circuit Court, and after a hearing before the judge the Board's decision was reversed. The learned judge is said to have denounced the advertisements of this company most severely as fraudulent and unjustifiable; but he claimed that the evidence failed to connect the doctors with the business management which he held as solely responsible for the charter of the advertising. To assume, from lack of evidence to the contrary, that in a business of this character the doctors and the business end of it were so profoundly ignorant of the doings of each, is stretching one's credulity to the breaking point. Had the distinguished jurist been a layman seeking the interests of the poor and ignorant of the community and not a lawyer schooled in making fine distinctions that we who know not the law are prone, in our short-sightedness, to regard as lacking in worldly wisdom, to use no harsher term, he might have reasoned thus: "Here is a set of unscrupulous men banded together for the purpose of filching from the pockets of the ignorant and poor their meager and greatly needed earnings and who are jointly profiting by this lying and fraudulent advertising. It is not at all probable that a layman little versed in technical terms would, without consulting his medical partners or employees, publish advertisements filled with medical terms and promises to cure. How can he know what disease to promise to cure and what not? The doctors are jointly responsible with the manager, and hence the decision of the State Board of Health is affirmed." We have a profound respect for the judge who rendered the other kind of a decision, but a fine contempt for some of the vagaries of the law. And God pity the poor and ignorant in our community, for few of the other kind are duped by lying and fraudulent advertisements of quack doctors and medicine venders. S. L. J.

The State Association Secretary writes us that the Association is larger than ever before, and with a little effort in collecting the dues of the members who are still in arrears for 1913, we will shoot beyond the 900 mark. He also writes that he needs some more papers for the Bluefield meeting. The long Winter evenings now upon us afford a suitable time in which to collect your thoughts and put them on paper. It is a profitable exercise. Try it and give the result to the Secretary.

REPORT ON MEDICAL DEFENSE.

As suits for malpractice are prevalent in this state and as they are apparently increasing in frequency it would be well to consider the causes of such suits. In general they are as follows:

1. Carelessness in making proper examinations, diagnoses and records of cases. Proper examinations and adequate records will obviate trouble in many cases. In every case physicians should be in position to offer expert evidence if necessary.

2. Neglect to secure the services of a consultant in serious cases or where it is difficult to make an exact diagnosis.

3. In nearly all instances, where suit is brought or threatened, some physician has encouraged such suit by a careless expression of disapproval of the treatment given the patient. In this connection it is to be regretted that, while physicians generally will not testify against their own county members, they often testify against members of a neighboring county society.

4. One suit leads to another, especially when physicians and defense companies frequently pay small amounts rather than go to the expense and publicity of a trial.

5. Many cases are brought or threatened as counter claims to avoid payment for medical services.

6. In states where the employer is protected by an Industrial Compensation Act there is a tendency for dishonest claimants and their attorneys to attack the physician as he is the only unprotected person available.

7. Fifty per cent. of alleged malpractice cases result from the treatment of fractures and dislocations. Physicians should be especially careful in handling these cases, and whenever possible, should obtain a competent radiograph.—*North West Medicine.*

THE ROYAL AMERICANS

"For the queer things we do and the queer things we say
Are English, y' know, quite English, y' know."

We understand that the king is going to pull off some sort of a Durbar here in Chicago. (He's done it, Editor). Probably his majesty will not preside in person. But his ambassador will be here to act as viceroy, none other than the First Lord of the Admiralty of the Royal College of Surgeons, resplendent in his robes of state. He will be empowered to give the accolade to the chosen few among our surgical friends and neighbors who have been selected

by an all-wise something-or-other to be founders of the American College of Surgeons. In other words, with great flourish of trumpets and popping of corks there will be introduced to an amused and unfeeling professional world the latest product of medical snobbery in America.

It looks very much to the man up a tree as if the 1912 Congress of Surgeons allowed something to be put over on it. It seems that it appointed a committee of ten eminent surgeons, including three graces of Chicago and one prominent gentleman from Rochester, Minnesota. This committee invited five hundred persons engaged in the practice of surgery throughout the country to become the founders of the so-called college. To quote from the prospectus, "each large university city on the continent was visited by a member of the committee, who met, in person, a group of selected men brought together by a committee of three in each locality." Thus five hundred men were selected to be the founders. We selected those from Chicago? What three men were competent to name the best surgeons of this city? This precious five hundred, or rather those of them who attended a meeting in Washington, organized this college. "The men were convened by Edward Martin. The call of the meeting was read by Franklin H. Martin, secretary of the committee. The founders' organization was then completed by the election of Edward Martin as chairman and Franklin H. Martin as secretary." Some Martin! The founders are the board of governors and this board selects the regents, who are trustees of the corporation. "The College" is incorporated in Illinois.

In the by-laws the object of "the College" is said to be "to elevate the standard of surgery . . . and to formulate a plan *which will indicate to the public* (whence come the patients on whom the fellows of the college wish to operate) *and to the profession* (who will be expected to refer the patients for operation) *that the surgeon possessing such a fellowship is especially qualified to practice surgery as a specialty.*" Some class; why, b'jove, there are jolly well four bally clawsses. In fact this nobility, which will be established in the profession of the North American continent, while of course they will all be peers of the realm, will be divided into four orders of varying rank. Class A, the dukes, will consist of the (self) appointed founders—God knows why—and perhaps will be permitted to wear their hats in the presence of the king. Class B, the marquesses and earls, will consist of the members of certain national special societies, like the American Surgical Society, and of one hundred each from certain other national special societies and nominated by accredited committees from these societies. Class C, the barons, will consist of surgeons of prominence of five years in the practice of a surgical specialty and who, *in the opinion of the committee on credentials*, are eligible to fellowship in the college without formal examination. Class D, the baronets, the chefs, the squires, the valets de chambre and the flunkies, will be selected later by examination. The prospectus fails to state the names of this omnipotent and omniscient committee on credentials.

The sordid subject of money is delicately hinted at in Section VI of the by-laws. Of course it goes without saying that the royal prerogative cannot be maintained without grants. The initiation fee is five guineas ($25, or twenty-five pesos, or twenty-five bucks). The annual dues will be twenty shillings sixpence (five simoleons). The revenue from the sacred founders alone will equal $15,000 for the first year. How much will be realized from the thousands in the lower and middle classes? Of course the money will never be spent for anything but the most elevating purposes. It may cost that much to maintain the first object of "the College," namely, "to elevate the standard of surgery." It must need a lot of elevating.

Query: How many surgeons will there be shortsighted enough to be dazzled by the alphabetic honor proposed and allow themselves to be branded by the brand of these self-selected branders? It is also a question how far the title conferred by this self-elected college shall commend its wearers to the great liberty-loving, freeborn American profession.

(Signed) HENRY F. LEWIS.

(From Bulletin of the Chicago Med. Soc.)

THE AMERICAN ROYAL SURGICAL EMPORIUM.

(From the California Journal of Medicine).

It was started, just as scheduled, in Washington, last month; it is called, we believe, the "American College of Surgeons." Finney, of Johns Hopkins, is reported to be its president, and Matas, of New Orleans, its vice-president. And then there is a Board of Regents to cherish its early years and get its nice little feet directed in the right direction! And shortly the fun will begin. Who is a surgeon? What is a surgeon? "Why am I not entitled to belong to this holy organiatizon: I once shook hands with Murphy and have removed ingrowing toe nails? Am I not a surgeon? Who shall say that I must be deprived of the glory of adding those mystic letters to my name? I was excluded from the original lists of the elect merely through jealousy: I am too good a surgeon: everybody is afraid of me and so they keep me out! Odds bodkins! Gads zooks!" And what in the world is the matter with all the "internists?" Are they asleep at the switch? Are they going to let the surgeons, Murphy-Martin directed, put it all over them again? Are they not going to organize an American Royal College of Physicians? Is there to be no way in which a plain ordinary, self-respecting physician can add a bunch of letters to his name and thus become a better doctor? It is pitifully scandalous to see such lack of energy; such inertia. Are there no great leaders among the physicians—the "internists," as they love to malign themselves? "Up and have at them!" Let us organize the "Internists' National Society, Absolutely None Excluded" and then John Jones may have his name and have his cards printed "John Jones, M.D.,

I.N.S.A.N.E." And then let's all join the "Holy Rollers!"

"MOVIES" WILL SHOW FAKE CONSUMPTION CURE FIL.

Interesting drama tells the right and wrong ways to cure tuberculosis.

How many thousands of consumptives lose their lives annually by taking fake cures for tuberculosis, will be depicted in a motion picture film which has just been produced by Thomas A. Edison, in co-operation with The National Association for the Study and Prevention of Tuberculosis. The film is entitled "The Price of Human Lives" and will be placed on exhibition in theaters throughout the United States on December 2nd. It has been designed to further the Red Cross Christmas Seal sale and the general anti-tuberculosis campaign.

The story of the picture centers about the wealthy proprietor of a drug concern named Gregory Cort and his daughter Beth. In the earlier scenes of the play a striking contrast between the lavishly furnished Cort home and the dingy basement of Nellie Linn is given. While Cort and his family live in luxury and happiness, his principal source of income is derived from the sale of a fake consumption cure called "Concura." Neither his daughter nor any of his intimate friends know the exact nature of his business.

Nellie Linn is shown taking "Concura' to cure herself of a "hard cold," while her lover, Ed. Grant, goes to a fake consumption cure doctor in answer to a newspaper advertisement. Beth is engaged to a young man by the name of Harry Bruce, whom Cort finally induces to become his advertising manager by showing him the huge profits which he makes in his business. Meanwhile Beth, as a result of her interest in Red Cross Christmas Seals, has enlisted as a social service worker and in this capacity become acquainted with Nellie and Ed. She becomes a friend of the family and attempts to urge them to stop taking fake cures for consumption including "Concura." Neither of them pays much heed to her advice until one day Nellie receives a letter telling her that a near relative had just died from tuberculosis, simply because she had delayed proper treatment too long by relying on "Concura." Nellie shows the letter to Beth who declares that it is a crime to allow the manufacture and sale of such false remedies. Burning with indignation, and with the wrapper of the "Concura" bottle in her hand, she goes to the office of the company, where she finds to her surprise and sorrow that the business is conducted by her own father and that her affianced husband is the chief promoter of the swindle. She refuses to recognize her lover after this discovery and forgives her father only after he has promised to make full restitution as far as he can to the suffering consumptives whom he has robbed. As part of his reformation he sends Nellie and Ed to a sanatorium, where they may be cured.

The closing scenes of the story show Gregory Cort as a changed man. Bruce is also seen in a new role, namely, as the friend of the Linn family and also as the manager of the Red Cross Seal campaign. The story closes on Christmas eve of 1913, with the lovers restored to each other, and Ed and Nellie making good progress on the road to recovery.

The National Association for the Study and Prevention of Tuberculosis, 105 East 22d Street, New York, will send, free of charge to anyone, literature on fake consumption "cures" and will be glad to give as much information as possible with reference to particular alleged "cures" for this disease.

Charleston, W. Va., November 7.—Nearly one hundred cities and villages in West Virginia have already begun plans for the sale of Red Cross Christmas Seals during the month of December, according to a statement issued by the Anti-Tuberculosis League of West Virginia which is conducting the state sale.

This favorable showing so early in the season indicates that the sale this year will far exceed that of 1912 when over four hundred and fifty-seven thousand seals were sold. Last year over forty million of these little messengers of good health were sold in the United States realizing about $400,000 for the campaign against "Mankind's Greatest Enemy."

These little Christmas stickers are sold for one cent each and the proceeds donated to the work of stamping out tuberculosis in West Virginia. They are used on the back of letters and packages, on statements, menus and any place where they will stick.

The State League is planning to have the seals sold in every city, village and hamlet in the state, and is carrying on an energetic campaign from headquarters in Charleston to accomplish this purpose. Tuberculosis Leagues, Women's Clubs, Educators, Postmasters, Bankers and other prominent persons are being called upon to assist in stamping out tuberculosis by selling Red Cross Seals.

That tuberculosis, a preventable disease, should be the cause of one-tenth of all deaths in the country each year, is one of the severest indictments of our modern civilization, and it is to combat this White Plague that the State League is working to raise money.

ANESTHESIA NUMBER.

The December issue of the Annals of Surgery is almost double the siez of an ordinary number. It is a special Anesthesia Number and offers some of the most important papers ever presented on this subject:

Anyone interested in Anesthesia should read this December Number of the Annals of Surgery—it is a master-piece.

State News

Dr. O. F. Covert of Moundsville, is attending Post-Graduate School of New York. He expects to return about the first of the year, and will open an office in the German Bank building of Wheeling, giving special attention to surgery, gynecology and diseases of the nose and throat. He will also maintain an office in Moundsville, having office hours in Wheeling in the afternoons only.

* * *

Dr. Tom A. Williams of Washington, who is almost one of us, has returned from a protracted visit to Europe.

* * *

Dr. and Mrs. J. McKee Sites of Martinsburg, announce the marriage of their daughter, Mary Jane, to Dr. George B. Geyer on Wednesday, November 12th, in Martinsburg. Congratulations from the tripod.

* * *

Dr. A. P. Butt of Davis, has recently been in attendance on the clinics of the Mayos in Rochester, Minn., as has Dr. R. J. Reed of Wheeling. Many physicians of this city attended the Surgical Clinics in Chicago last month.

* * *

REMOVALS—Dr. George R. White from Barboursville to Williamson. Dr. C. L. Beavin from Fairmont to Baltimore, 3601 Dillon street. Dr. F. W. Smith from Bluefield to place unknown.

* * *

For want of space we can only say that the meeting of local health officers with the State Board of Health in Parkersburg on the 28th of November was attended by nearly sixty officials in addition to the State Board. It was a most interesting meeting, and will doubtless be attended with excellent results in increasing an interest in preventive medicine.

Reviews

STAMMERING AND COGNATE DEFECTS OF SPEECH. By C. S. BLUEMEL. Two volumes Octavo. Pages 365 and 391. G. E. Stechert and Company, New York 1913.

The first volume of this work treats of the Psychology of Stammering, while the second volume is devoted to a study of the Contemporaneous Systems of Treating Stammering: Their Possibilities and Limitations. Volume One represents a serious attempt to explain the cause of stammering and to indicate the direction in which the writer believes the only radical and reliable cure is to be found. The work is a valuable accession to the literature, gathering many scattered elements into one place. The writer confesses his failure to auswer the vital psychological question at the base of the whole matter. This, in our view, is due to his blind following of the James-Lange theory of emotion, ignoring at a vital point the importance of the purely psychic, and misplacing the physical changes involved in feeling.

The second volume is of value in a historical sense. Philosophically, however, it fails to fit in with the first volume. The detailed description at length of worthless systems might have been well left out. It is mere padding and lumber. Nevertheless the profession owes a debt of thanks to the writer for his resume of the whole subject. The second volume contains a splendid bibliography and a full index. C. A. W.

GENITO-URINARY DIAGNOSIS AND THERAPY. By DR. ERNEST PORTNER, Berlin. Translated and edited by Bransford Lewis, M.D. E. V. Mosby & Co., St. Louis, Pub's.

This volume of 221 pages is essentially a work written for the general practitioner and dwells principally on the therapy of G. U. diseases. A few minor surgical procedures are mentioned.

We find a very good description of circumcision, while on the other side the surgical treatment of acute gonorrheal epididymitis is very poorly described and not up to the standard of epididymotomy.

The diagnostic part of the book is written in a mere cursory way; an exception, however, makes the given diagnosis of gonorrhea by the complement fixation test and appears for the first time in a book on G. U. diseases. The diagnostic value of this test is yet wanting a good deal of reliability, as it has been so stated in this book as also in the current literature.

The "nil nocere" is well taken off by a minute and up-to-date description of cleansing and disinfecting the catheters and instruments for diagnosis, and I was more than pleased to see the formalin disinfection brand marked as "unreliable." Formalin shares here the same fate as urotropin does in bacteriemia where it was labeled by Dr. John B. Murphy as "the chief goddess of deception." DR. G. ACKERMAN.

A CLINICAL MANUAL OF MENTAL DISEASES...By FRANCES X. DERCUM, M.D., Ph. D. Professor of Nervous and Mental Diseases, Jefferson College, Philadelphia. Octavo of 425 pages. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, $3.00 net.

Doctor Dercum's work should be on the desk of every general practitioner. The volume is of convenient size and it contains a really useful treatise on mental diseases. It is practical in the best sense of that word. The author in writing has kept the bedside in view all the time. While some us may think he has erred in over-much conservatism concerning the latest developments of the psychogenous derangements, yet his teaching may be the wisest after all for the man in general practice. In addition to the splendid clinical pictures presented, the treatises upon prognosis and therapy make the book a notable one. Mental disease consequent upon disturbance of the ductless glands, the insanities of pregnancy, parturition and of puerperium, are helpfully discussed and the work contains some lucid information concerning mattoids and morons. The more usual field of psychiatry, that which our steps most frequently traverse, is adequately and satisfactorily covered

C. A. W.

The West Virginia Medical Journal

Published Monthly
by
The W. Va. State Medical Association

Under the Direction
of the
Committee on Publication.

COMMITTEE ON PUBLICATION:
S. L. JEPSON, Chairman.
L. D. WILSON. G. D. LIND. C. A. WINGERTER.

Entered as second-class matter August 10, 1906, at the Post Office at Wheeling, W. Va.

Vol. 8—No. 7. WHEELING, W. VA., JANUARY, 1914 Subscription Price $1.00 per Year Single Copies 15 Cents.

Original Articles.

CEREBRAL ARTERIO-SCLEROSIS.

C. W. Halterman, M.D.,
Clarksburg, W. Va.

(Read at Annual Meeting State Medical Ass'n, May, 1913.)

It has been said by competent authority that in civilized lands, among those attaining adult life, arterio-sclerosis is the commonest of all morbid states. Its incipiency marks the end of that perfect and normal physiological process that builds and maintains the organism in a state of equilibrium and health.. Once established and operative, there appears to be no means whereby its progress and devastations may effectually be controlled. Insidious in onset and hedged about by health conditions apparently normal or by symptoms that fail to attract serious consideration, this proteus lays hold upon the very foundation of life, and stealthily, perhaps for years without serious consequence, slowly but surely saps the life of the organism, exacting a toll that only too often results in a disorganization and degeneration that spares no tissue or organ, however important, however fine in texture or delicate in function. This morbid state we hold to be the largest and most important etiological factor contributing to the great and ever increasing number of chronic degenerative diseases. It is not my purpose to enumerate these or dilate upon their importance, all this being well known and sufficiently grounded in the minds of medical men. It is of importance, however, in these headlong days, in this particular time of stress and strain, that we inquire carefully into conditions that obtain and underlie this destructive force so active and important in the life of men and nations, a force highly potent for lessened vitality, for lessened usefulness, for deterioration, and tending to annihilation of the race.

Strain hypertrophy and overstrain atrophy may well be assigned the position of primary importance in any discussion or conception that has for its object a knowledge of the fundamental conditions that underlie this morbid state. Arteries undergo strain first, by reason of their walls being weakened by congenital or acquired defect, these not being of perfect build nor of sufficient strength to withstand the normal impact and pressure of the blood stream. Such a state cannot long endure without some means of relief, this being afforded by a compensation hypertrophy. Nature in an honest and enthusiastic attempt to remedy the defect and to maintain the efficiency of the part, begins a fibrosis, a strengthening process designed to relieve the strain occasioned in this condition by the normal blood pressure only, operating here as the primary factor in the etiology of the sclerotic process. Arteries undergo strain when excited or stimulated to tonic and chronic contraction, by any substance or cause operating to produce a state of hypertonus in the smaller arteries and arterioles, with its accompanying hyperpiesis or high tension. It must be specially noted and straight away conceded that in the condition of generalized arteriolar contraction is found the chief and pri-

mary cause of high pressure, and the practically constant and commonest cause of arterio-sclerosis.

It is well to bear in mind in this connection the important fact that the ratio existing between the strength of the vessel wall and the force of the impact and pressure from within, is closely related to primary facts in etiology and is of first importance in any scheme of investigation having for an object the bringing to light the facts in relation to the genesis of this proteus. It would appear from the foregoing that the forces at work in the production of this condition are relatively simple. As we have seen in one instance, in one important series of cases, it has been noted that stimuli acting on the smaller arteries and arterioles causing an increased and prolonged tonic contraction and followed by the inevitable rise of blood pressure, tends to and always does produce a weakening and degeneration of the muscular coat and a fibrotic thickening of the intima.

In other and less numerous cases, congenital, acquired toxic and other deleterious influences bring about degeneration of the vessel wall without producing any contracture of the musculature and therefore no elevation of blood pressure is noted accompanying these cases. The end results in either case is found, however, to be practically the same, weakening and degeneration of the media, with a compensating fibrosis of the intima, all tending to disintegration, to atrophy and solution of continuity. If the vessel wall sustains its damage rapidly with a more or less sudden giving away of the middle coat, all taking place before nature has had time to marshal her forces for repair, aneurism, miliary or larger, occurs as a consequence, compensation not having taken place in the laying down of new elements in the intima to strengthen and bridge over the weakened points. Where the damage done represents a slow process, relatively, time is ample for repair, the weakened parts being strengthened by the usual hypertrophic fibrosis of the intima overlying the primarily affected media, protecting the part and extending for a time its usefulness. This process at times overcompensates, the thickening encroaching upon the lumen of the vessel to narrow or obliterate its caliber, resulting seriously in proportion to the importance of the function of the part subserved. Furthermore, such thickening eliminates conditions essential for the proper function of nutrition relative to underlying structures as the deeper parts of the intima and part at least of the media, these, as is known, receiving their nourishment from the main blood stream as it flows through and over the inner coat. In the larger vessels such condition is responsible for the atheromatous process with the resulting atheromatous ulcer. In the smaller arteries and arterioles conditions are found to be different; the atheromatous process not being so much in evidence, but seen in its stead is the usual thickening and hardening with interference in the process of nutrition, both for the vessel and the part the vessel supplies. The vessel weakens, degenerates, becomes sclerotic, and gives way under normal or increased pressure, resulting in hemorrhage, or there are conditions favorable for the formation of a thrombus or embolism, accidents of vascular degeneration.

While thus briefly stated I have attempted to give a rough outline of the sclerotic process as affecting the arteries generally, it is now important to mention those agencies that tend to weaken vessel walls and contract the musculature, producing high pressure, necessitating in both cases strain hypertrophy as a means of protection and resulting finally in sclerosis. Heredity has a place in its causation and must be considered as contributing a share to the upkeep of the vast and ever increasing number of cases. In the great mass of literature that has grown up about this subject, an indictment has been returned against every conceivable thing that has a tendency to unbalance the orderly and efficient mechanism and function of the arterial system.

Alcohol is important to consider. Competent observers differ as to this agent's potency for harm, some passing it by with the suggestion that the excessive digestion of food occasioned by its use is the only relation it bears as an etiological factor; while others ascribe to this drug properties exceedingly harmful, and regard it as a

strong factor in the genesis of this disease process.

Syphilis supplies its own peculiar conditions of sclerosis and stands well up among factors that bring about vascular degeneration. The acute infectious diseases lay the foundation that results disastrously to the vascular system, the toxins of the bacteria concerned being active in the etiology of arterial disease. Nicotin is claimed by most excellent authority to be a highly potent factor in the elevation of blood pressure occasioned by its effect upon the musculature of the small arteries and arterioles. Over-function or hypersecretion of the adrenal and pituitary glands, through the action of their hormones, epinephrin and pituitrin, bring about powerful tonic contraction of the arterioles and occasion exceedingly high pressure which, if long continued, results in sclerosis of the vessels. These agents successfully used in the production of experimental arterio-sclerosis proves beyond any doubt the important position occupied by high blood pressure as an etiological factor in this disease process.

According to Metchnikoff the colon, with its offending bacteria and their toxins, is a source of grave danger occasioning premature stiffening and hardening of the arteries. While this source of infection is perhaps exaggerated and assigned a place of too great importance by this noted author and investigator, there can be no doubt that many cases of the disease condition under discussion have their incipiency in this appendage and relic of prehistoric times. The prevalent condition of stress and strain, with "step lively as the password," supplies a group of factors operating against efficiency, stability and perfect function, and centering in the arterial system where the impact is most severely felt and the greatest damage sustained.

Strong emotion, notably anger, the ordinary worry and dissatisfaction with the times and things in general, the pessimistic attitude and state of mind, is believed by Oppenheim to be a factor in the production of organic change and gives as an example the arterio-sclerotic process as developing out of a functional condition. These, it would seem, tend to increase the output of epinephrin followed by general arteriolar contraction and high tension.

Hard manual labor seems to play an important role in the production of arterial muscular contraction and sclerosis; added to this, the harmful effects of fatigue toxins increase the potency of this condition as a factor in etiology. Certain conditions of malnutrition among the poor, hard working and over crowded, contribute to the number of cases. The products of faulty metabolism, as a class of endogenous toxins would seem to occupy a most important place in the role of etiology. Overeating, excessive consumption of rich proteids and highly nitrogenous compounds, in these days of high and rapid living, afford a burden that the human organism was never built to bear, and therefore in this abuse and intemperance, in my judgment, in this side stepping the simple life, lies the one great cause of the too early wearing out of the great highway of nutrition, that must be clear, in perfect order, and free from disease and obstruction, if a proper balance relative to function and the metabolic process is to be maintained in the interest of the organism, to enable it to attain to the ripe and physiological old age by nature's rule.

Damage to the arterial system in any part of the body relative to sclerosis and obstruction of function is of vital importance. In relation to cerebral structures this must be regarded as being doubly so. because of the fact that not only the somatic side of the organism is involved, but included and in addition the psychic life of the individual suffers and must stand for its share of obstruction to normal function. For the reason that impaired nervous function follows in the trail of impaired circulatory function, and for the further reason that nervous symptoms are focal or wide-spread in nature in proportion as the arterio-sclerotic process is focal or of wide distribution, and furthermore, for the purpose of being able to identify individual or composite symptoms as far as possible with a particular vessel or system of vessels, the distribution of the cerebral arteries with a knowledge of their relative vulnerability is essential and of vital importance.

Such knowledge being assumed, it is only necessary to call to mind the fact that in the main cerebral arteries are end arteries, anastomosing in the most vital parts

being of very limited extent or does not obtain at all. They are given off from vessels much larger in caliber than themselves and are therefore under high pressure. The muscular coats of the arterioles are very slight and can afford only weak resistance to dilating force. The brain substance offers less support than is usual for body vessels. They have no sheath. No well defined vaso-motor nerves can be discovered in the vessels of the brain. These conditions favor the developing of miliary aneurism out of the arterio-sclerotic process as well as other factors that lead to vascular accidents. The neurological and mental phases of this condition are equally important and afford equally interesting states for investigation. Some cases remain throughout a long course purely neurological, while others are purely mental in their clinical manifestations. Either may be tinged with elements of the other. and finally both neurological and mental symptoms may blend as a composite picture or symptom complex. Under incipient cerebral arterio-sclerosis may be included those cases which show general symptoms preceding and introductory to degeneration and decadence of the arterial system. This state is generally well characterized by sleeplessness, restlessness, headache and dizziness, mental fatigue, physical exhaustion, abnormal irritability, palpitation of the heart and increased blood pressure. Even when dealing with advanced cases where focal disorders are common, retrospective evidence usually discloses the fact that this early symptom complex preceded and dominated the clinical picture. There is a progressive lessening of mental ability, a slowing of the mental processes and failure of memory. The onset is usually insidious, and in cases that date from an apparently acute and sudden attack of cerebral disorder, a searching inquiry will reveal the fact that certain mental and nervous symptoms have been operative for varying periods of time.

Intellectual workers notice that the mind works less efficiently and that their mental processes are dulled and slowed.

(This conscious observation of failing mind in rare cases leads to suicide.)

A greater effort than usual is required to accomplish the normal amount of work. Increased forgetfulness characterizes this condition as an early symptom. Periods of disturbed consciousness occur. The power for the creation of new thought is impaired, accompanied by a growing lack of initiative. Moods show an abnormal variability. Laughing and crying may occur without adequate cause. There is a loss of that fine tone quality and modulation that characterizes the mentally well-balanced man. There is a diminution of general cerebral functional activity. Tinnitus aurium is an annoying symptom in some cases, and there are certain general disturbances of nutrition quite noticeable even in a degree of considerable emaciation. Motor weakness is a symptom of importance, the patient walking with unsteady gait and short, draggy steps. He may fall easily and cannot help himself very well. The larger basal arteries, either by direct obliteration, by tortuosity, or by aneurism pressing upon contiguous structures, give rise to various neurological symptoms. Cerebral branch disorders have their symptoms in relation to the function of the part supplied, and the main cerebral vessels have their symptom complexes due to interference with blood supply in wider distribution. The minor branching of terminal vessels makes possible very limited lesions as a result of their obliteration. A certain number of cases will have to do with the terminal branches of distribution as supplying the gray cortex and the underlying white substance. These two systems of vessels may be more or less independently affected, giving rise to symptom complexes clinically recognizable in many cases.

The extent and character of the defect symptoms depend upon the multiplicity, distribution and size of the lesions.

The miliary aneurism is a constant source of danger, the most potent cause of cerebral hemorrhage and the most important consequence of the gross pathology of the cerebral arterio-sclerotic process. A knowledge of the localization of cerebral function is necessary for any considerable degree of understanding of focal symptoms present, and important in practically every case of arterio-sclerotic brain disease. These vary as widely as the function of different parts vary, and are insidious or fulminant in onset as the part is slowly impaired and grad-

ually deprived of its nutrition, or is overwhelmed by a catastrophe, such as the apoplectic insult, by hemorrhage, thrombosis or embolism. These bold and frank symptoms may be regarded as accidents of the arterio-sclerotic process, vascular accidents and a consequence of its degenerating and weakening influence on the vessel walls. Related to these are transitory attacks focal in nature and of like etiology, at times mild and apparently recovered from, but which tend to leave the patient on a lower mental level. The apoplectiform shock and epileptiform attack occurs as a result of arterio-sclerotic brain disease, most cases having at some time in their course such motor explosions. These attacks as above indicated may occur without apparent cause or may follow some incident resulting in increased blood pressure, as strong emotional excitement, sudden exertion or head injury, vascular crises and indulgence in alcohol to excess, excessive mental strain, the large meal, the cold bath, anger, sexual excitement.

These attacks may be of short duration or continue as states of disturbed consciousness or motility. Recovery may be complete finally, but it is not unusual for some disturbance of motion, sensation or mental defect to persist indefinitely. Disturbance of hearing, seeing, or taste and smell occur, and while periodic and of short duration may persist as permanent symptoms of the disorder. I wish here to call attention to a condition contributing as I believe largely to the production of the many transitory symptoms relative to sensation and motion so frequently met in this condition. I refer to vascular crises. Pal has made extensive investigation of this condition as affecting the splanchnic vessels. Intermittent claudication as described by Osler is an affection of like nature. Observations made upon the retina in certain cases of transient blindness have shown the central artery to be in a state of spasm, a vascular crisis, and the paroxysms attacking the heart and known as angina pectoris, are due to vascular spasm or vascular crises affecting the coronary arteries.

The arterio-sclerotic vessel is apparently predisposed to such attacks anywhere in the body, the brain being no exception. Periods of momentary unconsciousness, attacks of severer grade and approaching the apoplectic insult in appearance, vertigo, affections of the special senses, transient paralyses all may be induced by vascular crises. On a clinico-pathological basis Alzheimer describes four groups of mental disorder growing out of arterio-sclerotic brain disease. The first arterio-sclerotic brain atrophy develops in two forms; the first mild, showing minor nervous and mental symptoms with little or no tendency to progression. Sclerosis of the vessels is marked but there is not much change in the brain substance. Focal lesions are absent. The severe type presents a picture of different nature. It may resemble the mild form at first, but there is soon noted marked progression going on to severe mental disturbance and resulting eventually in profound dementia, accompanied by evidence of gross change, out of which develops such symptoms as apoplectic shocks, epileptiform attacks, and other cerebral phenomena incident to focal lesions of vascular origin. Subcortical encephalitis, the second in Alzheimer's classification, as the name suggests, is an affection of the white matter underlying the cortical gray substance and has primarily in etiology sclerosis of the long medullary arteries. A symptom early noticed and perhaps the most outstanding and prominent, is a defect of the association process, an affection of the tangential fibers. Accompanying this or soon following and also constituting an early symptom is speech defect. Epileptiform and apoplectiform attacks are at times in evidence with periods of excitement and confusion. Areas of softening may occur in the basal ganglia giving rise to symptoms of focal nature. The third is designated as perivascular sclerosis and may be described as a condition in which there is atrophy of the nerve substance along the course of the sclerotic vessels with a proliferation of glia in the diseased vascular field.

Senile cortical devastation completes the group of cases, is classed as an affection of senile years, and represents the combined affections due to sclerotic disease of the arteries and the changes incident to the process of aging and the senile period.

While this classification is of value and helpful as a means of differentiation, pure types are the exception, the clinical and

anatomical picture being often changed by the extension of the disease process into other fields modifying and adding symptoms strange and unknown to the classical types as described.

On the background of arterio-sclerotic brain disease psychoses develop, showing in their pathology the destruction of those elements upon which normal mental function depends, representing an extension of the disease process to the latest and most modern achievement in organic evolution —the cells of the human cortex that represent the basis of the high mental attainment of man. It is not my purpose nor is it within the province of this paper to discuss the psychoses incident to arterio-sclerotic brain disease. Suffice it to say that on this background in silhouette the symptoms, the abnormal psychology, the psychosis is clear and sharply defined in outline, or the picture, the symptom complex in nature protean, is elusive and does not lend itself to an analysis that permits of satisfactory classification.

The early recognition of this affection is important because of the necessity of instituting treatment at a time when there is some hope, at least, of staying its ravages. If possible cases should be detected in the pre-sclerotic stage—the stage of arterial and arteriolar contraction with high pressure, and before the sclerotic or degenerative changes have begun. A persistent rise in blood pressure as shown by a standard instrument using a 12 c.m cuff to 150 m.m. hg., accompanied by headaches, dizziness, mental fatigue, physical exhaustion, abnormal irritability, forgetfulness, and a slowing of the mental processes, palpitation of the heart and other symptoms often in this affection mistaken for neurasthenic, and particularly if the patient is within the arterio-sclerotic age, justifies a most careful and searching investigation, especially neurological and mental.

Following not long after the pre-sclerotic stage, neurological disturbances due to focal lesions, to irritative and destructive changes in the brain, come into the field of symptoms as evidence of the advancing degeneration of vessels and destruction of brain tissue. Headache has increased, dizziness is of severer grade, the gait may be unsteady, transient attacks occur, there is speech disturbance and troubles of vision. The condition of the retinal vessels is of special significance, alteration in these suggesting changes in the cerebral vessels. The ophthalmoscopic picture is quite characteristic. There is marked deterioration of general cerebral function due to the fact that the brain receives its nourishment through vessel walls that are so altered as to interfere with efficient interchange between blood and brain tissue, and must therefore show evidence of distress under activity, this being particularly noted in slowness of thought and a general lowering of the mental level.

Mental symptoms of mild and severe grade and terminating in dementia are all common incidents of vascular degeneration affecting the brain. Life is seen to have taken on a burden, a great weight of degenerative changes. It is a state of presenility, a senium precox going on to profound and hopeless dementia, a reversion to the vegetating organism. It is of importance and of interest to consider diagnosis from the differential standpoint. General paresis, cerebral syphilis, senile dementia, neurasthenia, the psycho-neuroses and tumors being the most important affections likely to be mistaken for this morbid state. Clinical and laboratory methods usually suffice to clear the situation and establish a proper diagnosis.

It must be remembered that this disease can in no way be considered as an acute affection, and must be regarded as being due to influences operative over a long period of time. It is important to recognize its early manifestions in the interest of the patient, hoping thereby to institute treatment in the incipient or pre-sclerotic stage that may check the progress and course of the disease. Strict search should be made throughout the body having in view the discovery and removal of any offending toxin or defect. Let the patient's life be so ordered that all strain and stress be removed from the cardio-vascular and nervous systems. He should be placed in surroundings free from all exciting influences, free from worry, from mental and physical exertion. The virtue of being slow to anger should be especially enjoined. John Hunter, a sufferer from sclerosis of the coronary arteries, remaked in speaking of his

attacks of angina pectoris, that "his life was in the hands of any rascal that chose to annoy and tease him." He died in an attack induced by a fit of anger. The patient should be advised of his condition in such a way as to avoid an increase of nervous symptoms and the apprehensive state of mind. Elimination must be encouraged, and if possible kept within physiological limits in the interest of the organism. Exercise must be guarded and regulated to suit the individual case, due regard being had for its effect upon the vascular system. It is of particular importance that the diet be properly selected and gauged in the interest of the digestive function and that of the metabolic process. Hydrotherapy has an important place in the treatment as is also true of electricity, the high frequency and faradic currents apparently being the most beneficial. Drug therapy is useful and should be instituted in cases where there is reasonable hope of benefit. As a rule patients do better treated in sanitaria well equipped for the care of this class of patients.

Finally, the progress of the disease, of deterioration, the degree of mental disturbance, the presence of delusions and other mental phenomena will determine the necessity for treatment in institutions for the insane.

PELLAGRA.

A. Mairs, M.D., Charleston, W. Va.

(Read at Annual Meeting of State Medical Association, May, 1913.)

Pellagra is an endemic and epidemic disease, periodic and progressive in its course, and characterized by a series of symptoms involving chiefly the digestive, cutaneous and nervous systems. The name was given the disease by the common people and not by a physician. In nearly every country in which pellagra has developed the disease was known among the people in the rural districts before it was known in the medical literature of the country. It was first described by Frapolli of Milan, 1771. The history of pellagra resolves itself into the history of the disease and its distribution in the several countries where it has appeared during the last two centuries. The disease may be said to have had six epochs, beginning about 1700 in Spain and extending to the present time in the United States.

The chief fact of importance concerning pellagra in Spain is that it appeared about 1700 and flourished for nearly two centuries and then for some reason since 1900 has ceased to exist to any great degree. Pellagra next appeared in northern Italy about 1720. The Italian government has taken various measures to stamp out the disease. These measures have been based on the idea that the cause of pellagra is in some way connected with Indian corn. Therefore in Italy corn is the official cause of the disease. Notwithstanding the fight in Italy against pellagra it does not show any tendency to decline in a satisfactory manner. At present there are about 50,000 pellagrins in Italy. In Spain no preventive means have been taken, and yet the disease has shown a greater decrease than in Italy. The disease appeared in France about 1828 and existed for more than 50 years south of Bordeaux, but since 1890 it has practically been an extinct disease and at the present time it is not indicated in the French health statistics. From 1875 cases were numerous and severe in the Austrian Tyrol, but at present shows a decrease in number and severity. Pellagra has existed in Egypt for about 70 years, and many cases were observed by Sandwich while studying hookworm disease.

Pellagra was first discovered and reported in America in 1864 by Dr. John T. Gray of Utica, N. Y. It was thought that much of the suffering at the Andersonville prison was due to pellagra. The real history of pellagra in North America and the discovery of the present epidemic began just as the real discovery of pellagra in Egypt, by the study of the hookworm disease In 1907 George H. Searcy reported an epidemic of pellagra at the Mount Vernon, Alabama, asylum for negroes. Babcock and Watson diagnosed the disease at the state hospital for the insane at Columbia, S. C., and this report marks the beginning of the widespread interest in the disease.

Pellagra has increased very rapidly in America, and especially in the southern states and the Mississippi Valley. The type of the disease has been more severe and of shorter duration than in Italy. It is proba-

ble that there are 10,000 cases of pellagra in the United States at this time.

One need not expect to find a typical case. It is a disease of many symptoms and of many variations. No disease is so plain in early spring and no disease so obscure in mid-winter. It finds its chief home in the country districts and attacks all classes, all ages and both sexes. The attack begins in the spring or summer months, recurring with increased severity each spring.

The symptoms of the digestive tract are stomatitis, esophageal burning, pyrosis, gastralgia, belching, nausea, gastritis, enteritis, dyspepsia, diarrhoea usually, constipation rarely. The chief cutaneous symptoms are a peculiar bilateral, symmetrical erythema, with progressive desquamation and pigmentation, a branny roughness of symmetrical skin areas, occasional serous or bloody blisters and trophic changes around the nails. The chief nervous symptoms are a chronic neurasthenia, exaggerated reflexes, vertigo, ataxia, spastic and paralytic gaits, palsies, paralytic strokes, occasional ankle clonus and Babinski reflex. The mental symptoms include melancholia, dementia, mania, confusional insanity, mutism, murder and suicide. Dr. Roberts, in his book on pellagra, gives more than fifty symptoms, which shows the obscurity of the disease. The nervous and mental symptoms conform to no known nervous disease or form of insanity.

Etiology—The cause of pellagra is obscure. The maize theory held by the Italian government and by the early observers in America, which attributes the cause to a chemical substance developed by a peculiar fungus called sporisorium maidis, found microscopically on decayed or green, unripe corn, is losing ground. The cotton-seed oil theory, held by many observers throughout the South, has not been substantiated and, as pointed out by Dr. Edward J. Wood of Wilmington, North Carolina, the wide invasion of pellagra in this country in 1907, neither marks the introduction nor the unusual increase in consumption of cotton-seed oil in the South, and pellagra appeared in institutions where the dietary had not been changed in a quarter of a century.

Sambon of London, who formulated the parasitic origin of sleeping sickness and its transmission by the Tsetse fly, made an extensive investigation of the cases in Italy in 1905. His theory was based on the topographical distribution of pellagra, and he advanced the theory that it was due to a specific infection by a parasite and transmitted by a gnat or sand fly. He found that the only biting fly in pellagrous localities was the species *simulium*. If pellagra could be found, the *simulium* could also be found, and conversely. The topographical distribution in this country conforms to that of Europe, and the *simulium* is found in pellagrous localities, although a different variety from that described by Sambon. The cattle people are very familiar with this fly, and it is known as the buffalo fly or turkey fly. Certainly his views as to the etiology are the most logical. At any rate, the ingestion of maize or maize products whether spoiled or not, is not alone the cause of the disease.

Special examination of the blood, urine, feces, eyes and temperature throws but little light on the subject. A moderate degree of secondary anaemia is almost a constant finding and a leukocytosis is not found unless there is a secondary infection. There are no variations of temperature except during late stages, when there may be an elevation, accounted for by mental excitement or secondary infection.

The pathology of pellagra has not been put on a very definite basis.

Diagnosis—A positive diagnosis should not be made unless gastro-intestinal and typical cutaneous symptoms are present. Noticeable nervous symptoms may not appear until late. Diseases which may be confused are syphilis in certain of its forms, insanity with gastro-intestinal symptoms and true sunburn, leprosy, alcoholic polyneuritis and beriberi.

Prognosis—The prognosis is grave. From ten to sixty per cent die.

Treatment—In Spain it is stated that the rapid decrease has been due to the general improvement in the hygiene, food and cleanliness of the laboring classes.

In looking over the literature you find series of from one to five mild, acute cases, treated with various drugs, as iron, quinin and strychnia, some form of arsenic, as Fowler's solution, and urotropin, with equally beneficial results. Salvarsan has been used in a great many cases, because it

is a preparation containing arsenic. From a report of 21 cases collected by Cole and Winthrop of Mobile, Alabama, the results were not at all gratifying. Very brilliant results have been observed by Cole from transfusion of blood in the severe type of cases, steadily retrogressing under approved therapeutic procedures. Sixty per cent of recoveries compare favorably with ten to twenty per cent in same type, treated by other therapeutic measures. There is apparently no advantage in the use of a relative or cured pellagrin as a donor. A healthy donor living under similar conditions as the patient serves the purpose. Appendicostomy has been performed, with colon flushing, with the idea of destroying amaebae. Hygienic surroundings, good food and cleanliness are to be considered, and from our present knowledge the employment of such therapeutic measures as may seem practicable.

In reporting these cases I am sorry not to be able to supply photographs of the cutaneous lesions and a full laboratory report.

CASE I—T. F., age fifty-two years, male, white. Father of eight children. Family history negative. Occupation, farmer, teamster and laborer. Born and raised in Kanawha county and never out of the state. Patient used coffee, alcohol and tobacco in moderation; corn products moderately and cotton-seed lard for several years. Patient has had the usual diseases of childhood, and with the exception of a severe attack of measles at the age of twenty has been in apparently good health until the present illness.

Present trouble: In spring of 1911 patient had an attack of diarrhoea which lasted two or three weeks. At times he complained of vertigo, general weakness and a staggering gait. About Christmas of the same year he had another attack of profuse and weakening diarrhoea, with general malaise, vertigo, vague pains and general weakness. The diarrhoea persisted and patient noticed that he was nervous and easily fatigued. In March, 1912, he became some better and worked nine days in a brick yard. Diarrhoea became worse and he would have from six to ten watery stools a day. At times stools contained much mucus and occasionally blood. Patient noticed that he was losing weight and, becoming weaker, he became extremely nervous and suffered from insomnia.

In June, 1912, the patient developed burning and itching of hands and feet. The dorsal aspect of hands became red and swollen and the burning was intense. Later large blisters appeared, which contained a large amount of serum. This cutaneous manifestation involved the dorsal aspect of the hands and wrists and did not appear until over two months after exposure to sun rays.

I saw the patient on July 13, 1912. The cutaneous symptoms had subsided to a marked degree. There was still some swelling and redness, and the dorsal aspect of the hands down to the wrists was desquamating. At this time he was a profound neurasthenic and worried much about his condition. He had a very marked stomatitis. Tongue was without a coat, and he had an excessive secretion of saliva. He also complained of slight headaches, general weakness and a falling off of weight. Temperature was sub-normal.

Physical Examination—July 13, 1912, nearly eight months after recurrence of disease. General condition: Greatly emaciated, expression dull, and he answered questions sluggishly. Eyes normal. Mouth: teeth illy-kept. Gums red and spongy, bleed easily. Mucous membrane red and inflamed, marked evidence of stematitis. Tongue, bald, beefy and fissured. Excessive secretion of saliva. Glands not palpable. Chest clear. Heart normal. Abdomen normal with exception of large amount of gas. Genitals clean. Extremitas emaciated, no edema. Reflexes equal and slightly exaggerated. No ankle clonus or Babinski reflex. Skin dry and harsh: hands at first showed a profound erythema, extending above the wrists. One month later hands were desquamating, dry and rough. Skin on the extensor surfaces of the forearms was dry, harsh and very rough. Skin of the forehead, nose and upper lip took on a yellowish hue, appeared somewhat thickened, very dry and rough. Upon these areas appeared numerous small papular warty and horny elevations.

The patient complained later of extreme weight of his limbs, and could not tolerate covers. The temperature was normal and sub-normal until the last week of his illness, when he had an occasional rise of 101 to 102. On the last day of illness temperature rose to 105° and higher. There was an excessive secretion of saliva. Pulse ranged from 70 to 80 until last day, when it ascended with the temperature.

Urine—Showed a specific gravity of 1015. No albumen and no sugar.

Feces—Patient had from 6 to 10 profuse, watery stools daily, which contained much mucus and at times some blood.

The blood was not examined, but the patient showed a well marked secondary anemia.

The mental symptoms made their appearance late, and the patient suffered from hallucinations, delusions, and two days before death was in a state of wild delirium and died from exhaustion August 10, 1912.

CASE II—*History*—C. H., aged twenty-four, male, single, white, born and raised near Charleston, attended the cows and did light garden work. Family history negative. Used coffee and tobacco to excess, corn products moderately, and the family has used cotton-seed lard for several years.

The patient was an imbecile, and other than being a delicate child with a weak mind he was apparently healthy.

Present trouble: In the spring of 1911 patient developed a diarrhoea, which persisted throughout the summer. In the spring of 1912 the diarrhoea returned and persisted. He would have from six to twelve stools daily, and at times involuntary evacuations. The patient had fits of crying and showed many neurasthenic manifestations. The nervous and mental symptoms could not be determined accurately because of the enfeebled condition of the patient's mind. Emaciation was pronounced. In May the patient had a marked erythema of the dorsal aspect of the hands, which extended to the margin of the shirt sleeves, which the family attributed to sunburn. The skin desquamated and there were small areas of pigmentation with a decided roughness around the joints. I saw the patient at this time, but did not recognize the character of the disease.

Physical Examination—General condition poor. Expression idiotic. Emaciation pronounced Temperature sub-normal. Pulse ranged between 70 and 80. Eyes normal. Mouth: the teeth were illy-kept. Gums spongy. Tongue without a coat, red, beefy and contained fissures. There was an excessive secretion of saliva. Glands were slightly enlarged. Lungs clear. Heart normal. Abdomen normal, with the exception of gas at times. Patellar reflexes exaggerated. No ankle clonus or Babinski reflex. Hands showed a marked erythema in May, but in August hands were desquamating, dry and rough. The palms were clear, forearms very rough near elbows. The forehead, nose and upper lip showed the identical condition of case one. Urine acid. Specific gravity 1010. Trace of albumen and no sugar. Feces watery. At times contained mucus and streaks of blood. The mental condition became less clear and the patient died August 21st, after an acute delirium of two days' duration.

Treatment—Massive doses of bismuth did not seem to influence the diarrhoea. Deodorized tincture of opium would lessen the number of stools, but would not alter character, but increase the gas. Iron, quinine and strychnia was given in tonic doses. Urotropin, 30 grains per day, with no alteration in the progress of the disease.

These cases are parallel. Both began in the spring with gastro intestinal symptoms, both had remissions, reappeared the next spring with increased severity, persistent diarrhoea and a progressive emaciation. Both had bald, beefy tongue, excessive saliva, a symmetrical erythema of the hands, hard, rough and horny condition of the face, a profound neurasthenia, a cloudy condition of the mind and dying in acute delirium.

The cause of pellagra remains a mystery. The prognosis is grave and the treatment is inadequate. While few cases have been reported from our state, we are in the sporadic zone, and it behooves us to be constantly on the lookout for the uncommon as well as the more common diseases.

OBSERVATIONS ON DIPHTHERIA

W. H. McLain, M.D., Wheeling, W. Va., Late Health Commissioner.

(Read at Annual Meeting State Medical Ass'n, May, 1913.)

Clinically, it is difficult to recognize diphtheria in its earliest stage. Sore throat is usually one of the early symptoms, but many patients do not complain of sore throat until the disease is well advanced.

The prodromal symptoms of headache, nausea, vomiting and general malaise accompany other affections. Sore throat, pain in swallowing, tenderness and swelling of the neck are present in ordinary forms of tonsillitis. The importance of adenitis depends upon what glands are involved and the amount of inflammation. In mild tonsillar diphtheria the cervical glands alone are swollen, and then only slightly. In severe cases the whole chain of cervical glands may be converted into one large mass and the submaxillary, and even the parotid glands, may be affected. After all is said, the peculiar exudation that appears on the mucous membrane, particularly in the fauces, is the distinguishing feature. This, *as a rule*, is firmly attached to the underlying mucous membrane, and cannot be removed without leaving a bleeding surface. In many severe cases of diphtheria the exudate *does not* penetrate deeply into the membrane, but peals off quickly leaving only small areas of superficial ulceration. On the other hand, an exudation of streptococcic origin *may* be very adherent, and its removal may be followed by extreme ulceration of the mucous membrane.

The presence of irregular-shaped patches of adherent grayish or yellowish gray pseudo-membrane on some other portions than the tonsils, is, as a rule, an indication of diphtheritic infection. Thick grayish pseudo-membranes which cover large portions of the tonsils, soft palate and nostrils are almost invariably the lesions produced by diphtheria bacilli. The great majority of cases of pseudo-membranous or exudative

laryngitis, whether an exudate is present in the pharynx or not, are due to the bacillus of diphtheria.

Cases in which no exudate is seen, and those in which the laryngeal obstruction is sudden and the spasmodic element is marked, are frequently due to non-diphtheritic bacteria. Nearly all membranous affections of the nose are true diphtheria. When the nose alone is involved the symptoms are slight, but when it extends to the naso-pharynx the symptoms are usually grave. Most cases of membranes and exudate entirely confined to a part of the tonsils in adults are not diphtheritic. Cases presenting the appearances found in scarlet fever, in which a thin grayish membrane lines the border of the uvula and faucial pillars are very seldom diphtheritic.

Diphtheria attacks not only the fauces, larynx and nasal cavities, but also occasionally the skin, vagina, rectum, conjunctiva, nose and ear. The membrane often starts on one of the small prominences of the fauces, the uvula or the epiglottis. The formation of membrane on the uvula is considered pathognomonic by many writers.

Lennox Brown's description of the membrane is as follows: "It begins almost invariably as a thin bluish white deposit, something like a shaving from the boiled white of a duck's egg. As the deposit increases in thickness it becomes more white and opaque, resembling the boiled white of a fowl's egg. Then it becomes of a yellowish or greenish gray, brown, and black, as the necrotic process advances or blood is extravasated."

It may be granted that the diagnosis of typical cases of diphtheria presents little difficulty, but all cases are not typical, and the failure to diagnose these properly is the cause of the continued spread of the disease.

In the year 1883 peculiar looking bacilli were shown by Klebs to be of constant occurrence in the pseudo-membranes from the throats of those dying of true epidemic diphtheria. One year later, Loeffler published the results of a thorough and extensive series of investigations on this subject. He separated these bacilli from other bacteria and obtained them in pure culture. When he inoculated the bacilli upon

more or less characteristic membranes were produced, and frequently death or paralysis followed. That was thirty years ago, and yet, how many of you avail yourself of this diagnostic measure?

In diphtheria a culture examination is invaluable because it shows conclusively that diphtheria is present long before positive clinical symptoms give unmistakable proof. It thus becomes a most valuable adjunct in the life-saving proposition.

One of the functions of a health department laboratory is to serve as an aid to diagnosis. Therefore, in 1908, twenty-five years after the Klebs-Loeffler bacillus was named, the Wheeling Health Department offered to examine cultures from suspected cases. In 1909, twenty-five cultures were made; in 1910, thirty-three; and in 1911, fifty-seven. For the first six months of 1912, thirty-four cultures were made. Two of these illustrated the importance of this method.

In one case a physician responded to a hurry-up call, and upon his arrival, found a dead child. While there was not much to arouse his suspicion, a culture was made from the throat secretion, and it proved to be diphtheritic. In this case a culture prevented a public funeral of a body dead of a contagious disease.

In a second case a young girl who was being treated for influenza, developed a "sore throat." A specialist was called in consultation, a swab taken, and the result was almost a pure culture of diphtheria. The result of the culture was telephoned to the office of the specialist, but, in the meantime, the patient died, and the death certificate was presented with "influenza" as the cause of death. The funeral was private.

During the year ending June 30, 1912, there were 145 cases of diphtheria reported in Wheeling, with twelve resulting deaths, making a case mortality of 8.27 per cent. During the next ten months, which ended April 30th, 268 cases were reported, sixteen deaths occurring, which made a case mortality of 5.9 per cent.

While an increased number of cases is expected with the opening of the schools in September, the cases became so numerous that the disease assumed the proportions of an epidemic, 169 cases being re-

ported during the months of September, October and November. This was undoubtedly due to the fact that a number of cases seen in July and August were not recognized as diphtheria, and consequently not reported to the Health Department. The majority of these cases were mild, and as no restrictions were placed upon them, the disease rapidly spread. Mild and unrecognized cases are more often responsible for the spread of diphtheria than the severe cases, because the latter are usually recognized and isolated.

Of the 268 cases, 147 attended school. That age is an important factor is shown by only three patients being reported who were under one year of age. One of these was confirmed by culture. Fifty-five were from 1 to 5; 180 from 5 to 21, and 30 were over 21, the oldest being 54.

DEATHS.

July, 1912, to April 30, 1913.

1. *Boy of Three Years.*—Died seven weeks after disease was reported. "Laryngeal paralysis following diphtheria." Antitoxin used.

2. *Child of Four.*—Died two days after case was first seen by a physician. "Nasal diphtheria." Antitoxin used.

3. *Child of Four.*—Treated for follicular tonsillitis for seven days. Massage of neck only treatment. When seen by a "regular" physician on eighth day, child was dying. Cervical, submaxillary and parotid glands were enlarged. A smear from throat was taken, and antitoxin given. Smear was examined at once and diphtheria diagnosis confirmed. Child died in next hour.

Three other children in the same family were affected, and several days later the father developed diphtheria. This family caused more trouble than any other ten. The osteopath who originally treated the case was arrested and fined in police court for not reporting a contagious disease. The father refused to obey quarantine rules, and for a number of days the house was guarded day and night. After the house was fumigated and all cases recovered, the father was arrested and fined in police court.

Cases 4 and 5: Nine and Two Years.—Supposed to be "*out of danger*" from diphtheria. Nephritis and heart paralysis. Antitoxin used.

6. *Boy of Three.*—Attended seven days. "Laryngeal diphtheria." Antitoxin used.

7. *Girl of Nineteen.*—Attended seven days. Supposed to be recovered. Refused to stay in bed. Died of heart paralysis." Antitoxin used.

8. *Boy of Two Years.*—Physician called in afternoon at 3:30, child died early next morning at 6 o'clock. Laryngeal diphtheria. Antitoxin used.

9 and 10: Ages Three and Nine.—Physician in attendance one day. No antitoxin used. Laryngeal diphtheria. Russian families both.

11. Baby of Fourteen Months.—Physician sent for in morning. Baby died that night. Laryngeal diphtheria. Antitoxin and tracheotomy. Italian family.

12. Child of Eleven.—Died a few hours after disease was recognized. Antitoxin. Laryngeal diphtheria.

13. Child of Four.—Attended six days. Antitoxin. Meningitis complicating diphtheria.

14. Girl of Sixteen.—Attended twelve days. Antitoxin used day before death, which occurred day after it was reported as diphtheria. "Abscess of both tonsils followed by laryngeal diphtheria."

15. Child of Eight.—Attended six days. Thought to be "*about well.*". Antitoxin. "Paralysis of heart."

16. Child of Three.—Died day physician was called in attendance. Antitoxin. "Laryngeal diphtheria."

In summarizing, ten were attributed to laryngeal diphtheria, one to the nasal form, and three to paralysis of the heart. Six deaths were really due to neglect or ignorance on the part of the parents, and three others were due to late recognition of the disease with lack of appropriate treatment. A culture in any one of the three cases would probably have saved a life by causing the prompt administration of antitoxin.

Believing that the control of diphtheria depends upon early diagnosis and prompt treatment with antitoxin, together with isolation of the case, no thought of closing the schools was considered, but bacteriological diagnosis was strongly urged. Medical school inspection was begun in September, and this helped materially in the control of the disease.

When a case of diphtheria was reported as coming from a room in a certain school, eitherDr. Drinkard, the school inspector, or his assistant, Miss Ross, was notified by the Health Department. An examination was then made of the children in that room, and swabs taken from any suspicious-looking throats. Suspicious cases were sent home to await the result of the culture. If the result was positive the parent was notified that the case was one of diphtheria, and that the family physician should be sent for at once.

From July 1st to April 30th, 277 cultures were examined. During that period we had 268 cases reported with a case mortality of less than six per cent.

Physicians are supplied with sterilized test tubes containing cotton swabs, and the culture is made at the Health Department upon the return of the swab. Blood serum is used and the tube is incubated at a temperature of 37 degrees C. 15 hours, then examined microscopically. In the great majority of cases the diagnosis is easily made, as one sees either a field full of the characteristic Klebs-Loeffler bacilli with a moderate number of cocci, or a pure culture of cocci.

Of the 277 cultures some were very interesting:

No. 27. Girl of Ten.—Very ill; no membrane in throat. Culture was positive. Membrane later appeared in nose and naso-pharynx.

Nos. 34 and 234.—Hospital cases developing diphtheria while under treatment for other diseases. Negative cultures later permitted them to be returned to a ward full of patients with perfect safety.

Nos. 57, 110 and 127.—Inmates of house of ill-fame. Diagnosis by culture. Rooms fumigated and patients removed to other houses.

Nos. 40, 72, 155, 197, 236.—Throat swabs taken from children in school. None of these children were ill. All having mild, atypical cases. with one exception. This case was diagnosed as diphtheria from a school culture. The family physician was inclined to disagree with the diagnosis, but seven days later he sent in a hurry call for antitoxin. Child had a severe attack because of late treatment.

No. 86.—Diagnosis of tonsillitis and treated as such for six days. Culture insisted upon by members of family. Result positive. Case was a severe one, but finally recovered.

No. 129.—Young boy with sore throat, no membrane, only slightly ill. Mother had been exposed to a case of diphtheria for several days. Culture proved positive, and when physician made next call membrane had formed.

No. 141.—Suppposed to be mild case of tonsillitis in adult. Culture proved positive as did two others from her two children. Investigation showed that the man of the house had been suffering with a sore throat for the previous week.

No. 146.—Young boy had what was thought to be follicular tonsillitis. The exudate began as discrete spots of deposit and was of a yellow color. Culture was made because of prevailing epidemic. Result positive. This was a comparatively uncommon case of laeunar diphtheria and it at no time presented the clinical appearance usually associated with diphtheria.

No. 156.—School case. Culture of nose secretion proved positive. Child apparently normal otherwise. House placarded. Eleven days later still positive. At intervals other cultures proved positive. After thirty-five days cultures were negative.

No. 197.—Mild sore throat proved to be diphtheria. Nineteen days later cultures still diphtheritic. Twenty-three days after first culture results were negative. These two cases emphasize the fact that diphtheria cases should not be released from quarantine until two negative cultures have been secured.

The disappearance of the membrane does not mean that the diphtheria bacilli have also disappeared. These seldom disappear from the throat until at least three days after the membrane has disappeared. Park, of New York, examined 605 cases. In 304 there were no bacilli four days after the membrane disappeared. In 176 cases they persisted seven days; in 64 cases twelve days; in 36 cases fifteen days; 12 cases three weeks; 4 cases one month; 2 cases nine weeks.

No. 263.—Mrs. G. had to abandon home on account of high water, and with several hundred others lived in one of our public schools for a number of days. Developed sore throat while there. Diagnosis of diphtheria by culture. Health Department gave her antitoxin and immunized her eight children. School room fumigated. Patient removed to her own home. No secondary cases.

No. 268, 269.—Young child died after day's illness. Soon after death a swab was taken, but culture was negative. Next morning a second culture was made from smear taken from trachea. Result likewise negative. Case considered non-diphtheritic. No diphtheria developed among other children in family who had been exposed.

ANTITOXIN.

Antitoxin was used in all but twenty cases. Two hundred and twenty-three thousand units of antitoxin were distributed by the Health Department—43 curative and 52 immunizing doses. It is interesting to compare the mortality from this disease before and after the use of antitoxin.

For the five years ending in 1882, with a population of 30,000, 265 deaths were due to diphtheria. For the five years ending 1912, with a population of 42,000, 55 deaths occurred.

Antitoxin is not always given intelligently. For example, one cannot expect a severe case to respond to 3,000 units. In children, very mild cases should have at least 3,000 units; moderately severe cases

5,000, and severe cases 10,000 units for the initial dose. In severe adult cases 20,000 units may be given for the first dose. The giving of larger doses than are necessary does no harm except entailing an increased expense, but too small a dose may mean the loss of a life.

In Wheeling no red tape is necessary to secure free antitoxin. It is given upon the request of any physician and in any quantity. At the same time he is given a swab with which to take a culture. If this proves positive, more antitoxin is forthcoming; if it is negative, we do not consider it necessary to give antitoxin.

To secure the best results all children in any family where diphtheria is found should be immunized. A dose of 1,000 units is sufficient to protect for at least ten days; if there is still danger of infection, it should be repeated.

Last summer at the insane asylum on Ward's Island, N. Y., an epidemic started through a cook. She died of diphtheria a few hours after the disease was recognized. During the next four days 40 cases developed. Three thousand people were immunized and no new cases developed.

We often find cases in families where other children have been removed to the home of a relative. Many of these develop the disease later. Immunization would have prevented these cases.

Every case of sore throat should be regarded with suspicion and a culture made. A case of so-called tonsillitis may clear up in a few days and still be dependent on the K.-L. bacillus. In Wheeling there is no charge for this service, and in consideration of the small amount of trouble involved, no physician should feel that he has performed his full duty to the public or to his patient if he fails to avail himself of this diagnostic measure. In using the swab it is, of course, essential that it shall come in contact with the diseased part. It should not be used when the mouth contains food or vomited matter, nor shortly after strong disinfectants have been used. Diphtheria does not occur without the presence of the diphtheria bacillus, but there have been cases of diphtheria in which, for one reason or another, no bacilli were found. This may be the fault of the examiner or it may be the fault of the person who took the swab. In quite a number of cultures examined, the first swab presented proved negative, while almost a pure culture showed on examination of a second culture.

No harm is done when a physician diagnoses a case of tonsillitis as diphtheria; but much harm is done when diphtheria is not recognized and the case is treated as tonsillitis. It is far better to call a case diphtheria, even though a doubt exists, than to permit the doubt to endanger others.

Jacobi says, "There is no case ever so mild apparently, that will not affect the heart's function at once, to a certain extent. From mild cases to the gravest, there are gradual transitions." Signs of this rarely appear before the end of the first week, but despite this fact, there seems to be a growing tendency to regard a case of diphtheria cured as soon as the membrane has disappeared. In our three deaths attributed to "heart paralysis" the membrane had disappeared. Patients should be kept in bed at least one week. Many are allowed up on the third day.

When it is generally known that every case of sore throat may be diphtheritic, no matter how mild it may appear, and that many cases of virulent diphtheria are located in the nose where the membrane is difficult to see, all intelligent parents will see that every case of sore throat is seen by a physician.

If the physician will take a smear from the throat and have it examined microscopically, reserving his diagnosis until he can be sure, there will be fewer cases of diphtheria treated as tonsillitis. Granted these two conditions, and the early use of antitoxin, a death from diphtheria should be a rare event.

THE NECESSITY FOR GREATER CARE IN THE DIAGNOSIS AND TREATMENT OF RHEUMATISM.

M. McNeilan, M.D., Parkersburg, W. Va.

(Read at Annual Meeting of State Medical Association, May, 1913.)

I know that the subject is an old one and to some of us may seem uninteresting and threadbare, yet when we realize the immense number of cases which come under

the care of the general practitioner as well as the specialist that have been treated for rheumatism until the time for the institution of proper remedial measures has passed and the patient has been hopelessly and irrevocably injured, we must realize that while it is an old subject there is in its management room for as brilliant achievements as any yet made in other fields of investigation.

These tragedies are an every-day occurrence with us, but nevertheless to the honest, earnest physician they are appalling. Since the mission of the physician is prophylactic as well as curative, we certainly have here a fruitful field for investigation. It is not within the province of this paper to review the literature in the limits given. However, if I will stimulate a vigorous discussion it has served the purpose for which it is intended.

Until we have isolated a specific organism we must rely largely on the symptomatology as a basis for diagnosis in rheumatic conditions.

There is no class of cases that tax the ingenuity and skill of the careful, painstaking physician more than those cases that are an every-day occurrence with the busy practitioner. To our shame and regret there is no class of cases where greater indifference and carelessness are manifested than in just such cases. When we review the literature of rheumatism we find that we have read the symtomatology of a large percentage of diseases which affect the human family. While in a certain sense true that there may be cases which are mixed or on the borderland, there is a large number of separate and distinct diseases which should never be mistaken and treated for rheumatism. Often when these cases come to us the patients have made their own diagnosis, and through hurry or indifference we fail to make a proper physical examination and therefore do much harm by failing to make a proper diagnosis and institute proper treatment.

A single painful joint should absolutely never be diagnosed as rheumatic until we have exhausted every possible means at our command, and then we should put a question mark after our diagnosis to show that it is still in doubt. A very high percentage of these cases are either gonorrheal, tubercular, metastatic, osteo-myelitis, or due to trauma or other causes than rheumatism.

Another class of cases which occurs more frequently among children where the symptoms are vague and indefinite, and if not carefully watched and frequently examined we may be much chagrined and mortified to learn that they have a heart lesion. A large percentage of these cases are metastatic, being carried from a known or occult source by the blood or lymph channels. It should always be borne in mind that articular swellings may also take place in the course of other diseases, and a mistaken diagnosis may be made, when there are grave constitutional symptoms with fever from the start. We should not forget the possibility of pyemia or acute osteomyelitis, since these affections occasionally give rise to swelling of several joints.

Syphilis often gives us fever, muscular soreness and swelling of the joints and should never be treated for rheumatism. In swelling of the joints the source of infection may be an infected gall bladder, a diseased appendix, a diseased ovary or tube, an abscess of the kidney, an infected tonsil, a frontal sinus, an infection of the urethra, bladder or prostate, and we might say an infection in any part of the body.

Multiple neuritis beginning with fever and severe pain in the extremities may sometimes, if we are not sufficiently careful, be mistaken for rheumatism.

As leaders in matters of health and hygiene we have not fulfilled our mission until we have set the laity right in these matters.

When we come to the consideration of the treatment of rheumatism we find nearly every drug in the pharmacopoea recommended, besides amulets, charms and fakes of all forms and descriptions.

There is no class of cases where an unsuspecting and gullible public has suffered more at the hands of the quack and fakir than these poor victims who are the dupes and prey of all sorts of irregular and vicious practices. In looking back over the literature we find that certain fads too numerous to mention have arisen, prevailed and perished, while they deserved very little, if any, attention. The older practitioners can remember when to have an attack of rheumatism meant six weeks be-

tween blankets. Then came the alkaline treatment, which was of some merit, but on the whole rather unsatisfactory. In the present status of rheumatism most of the drugs and remedies are mentioned only to be condemned as useless and in many cases positively harmful.

Of the local application, such as liniments and nostrums, which are in many instances too disgusting to mention, they are of little merit as a whole and in many instances quite harmful. In a few instances the anodyne and psychic effect may give temporary relief, but they cannot be relied on to give any permanent benefit.

Of the drugs now in general use the salicylates stand at the head of the list. By many they are regarded as specific. They are extremely useful and in selected cases their effect can be said to be almost magical. Yet their indiscriminate use for every ache and pain cannot be too severely condemned, as they may produce many disagreeable symptoms and do much real harm where the patient has a delicate stomach.

Just now we are hearing much of serum in the treatment of rheumatism, and our expectations are raised very high from favorable reports made of its use. We are thinking much, hoping much, expecting much and believing much. Yet as honest, earnest investigators we must ask ourselves the question: Is this really a serum age or only a spasm?

HEREDITARY ALCOHOLISM AN UNDENIABLE FACT

J. W. Williams, M.D., Richmond, Va.

"Alcoholism strikes a man not only in his own person, but in his own descendants."—*Dr. Lunoir, Paris.*

"God will visit the sins of the fathers upon the children unto the third and fourth generation."—Moses Ex., 20:5.

"Man scans with scrupulous care the character and pedigree of his horses, cattle and dogs, before he mates them; but when he comes to his own marriage he never, or nearly never, takes any such care. On the other hand, he is strongly attracted by mere wealth or rank.. Yet he might by selection do something not only for the bodily constitution and frame of his offspring, but for their intellectual and moral qualities." * * * "But such hopes are Utopian until the laws of heredity are thoroughly known." —*Darwin, "Descent of Man,"* p. 701.

For many years it has been recognized by breeders of horses and dog fanciers that the effects of heredity are undeniable. We are indebted to Sir Francis Galton, F.R.S., for the term "Eugenics." The first Eugenic Congress has just been held in the University of London, presided over by L. Darwin, son of the great evolutionist. "It was organized to spread the knowledge of the laws of heredity, the science that deals with all the influences which improve the unborn qualities of a race with traits that are in the blood—the protoplasm." Four hundred delegates were present of all nationalities.

As the seed is more important than cultivation, so is the healthy hereditary germ cells (spermatoza and ova) of more importance to the race and to society than culture and refinement. Children represent the life and vitality of their parents. All facts show that the antecedent vitality of parents and even grandparents influences the life of a child. To be "well born" is to be born in "high society" or to riches, or born to inherit one or all of the crowns of Europe; but at least one or two generations of healthy, normal parents must precede such birth—the ancestral germ cells must be free from contamination. The testimony of medical and sociological science corroborates the statement of the great Hebrew law-giver, that the "iniquity of the fathers" affects their children, under the laws of heredity, to the "fourth generation." "The father is the trustee of the germ cell, and the healthy germ cell is more important to his child than 'high society' or culture and refinement." Every young man should have this fact taught him at home and in school, and it should be the first article of his social creed. Every life, vegetable or animal, at its origin, passes through a germinal phase of existence and is modified, negatively or positively, by the unhealthy or healthy condition of the germ cells. The original protoplasmic cells (spermatozoa and ovum) which unite to form the beginning of the future child consist of a highly endowed protoplasm possessed of the function of "development," thereby surpassing the powers of all other cells of the human body. Now these germ

cells may be initially healthy or diseased, feeble or devitalized, as they start upon their journey of life with pure or impure blood from either one or both parents; and in thousands of instances injured by protoplasmic poisons—syphilis, tuberculosis, and more especially by alcohol and morphin. Dr. Marion Sims declared that syphilis had "killed more of the human race than the bullet." And 125,000 of our people in the United States alone die in consequence of tuberculosis every year. No human being who is addicted to either of these potent drugs, alcohol or morphin, can escape the consequences of the "addiction" under the laws of heredity. We have treated fifteen physicians, among others, who were absolutely slaves to morphin and utterly unable to free themselves from its awful curse and slavery. The abnormal mental characteristics of these patients are, or seemed to be, pathognomonic and point unmistakably, more or less, to the pathological changes in the cells of the brain as illustrated by the microscopic photographs taken from the sensori-motor area of alcoholic patients who died at Claybury hospital; and, contrasted with sections of the same area taken from normal, healthy brains of non-alcoholic patients who died at the same institution, the contrast is striking. "The nerve cells in the alcoholic brains have *extraordinarily diminished* in numbers, having *degenerated* and *wasted away*.. The cells *degenerate, shrink* and *disappear*. The cells damaged in this way *never* recover, and as far as we know are *never* replaced" —Sir Victor Horsley's work, p. 121. Fifty per cent of the children of all such habitues are degenerates, as is well known; and thus science confirms the remarkable statement of the Mosaic law. Sir Victor Horsley demonstrated that alcohol is found in the *foetus in utero;* and Dr. Wigglesworth declares that a "direct poisoning of the germ cell itself by the alcohol and morphin circulating in the blood, and a consequent direct injury to the cells of which this structure is composed, and which by reason of the injury are prevented from developing a stable organism. If the alcoholic poisoning of the germ cell and ovum has reached a certain degree of intensity, imbecility and even profound idiocy may be expected to result, while if of a less degree, the injury may manifest itself in the various forms of adolescent insanity, when the adult life is developing, or has been attained. Dr. Potts, an eminent investigator, tell us "that when a toxin finds many victims *in utero* some of those who escape premature death must only just do so, and can hardly have an average mental and physical endowment. Some of these individuals may pass as normal up to a certain age, when in consequence of their poor stock of vitality, early mental or physical decay will appear." Within ten miles of my office, in Hanover county, Va., there lives a widow who had three sons begotten by a drunken father, and all three perfect idiots, unable to attend even to their personal necessities. One is about 40 years of age, another about 35, while the third died. I rode out to see for myself this visitation of the sins of the father upon the first generation, under the laws of heredity. The sad, clinical picture is still upon the page of my memory—the poor dejected mother and her helpless offspring. Other cases of like nature I could mention. Dr. Kerr mentions a case, typical of hundreds of others, in which was born a son, then a daughter, who were vigorous specimens of humanity, mentally and physically. After the birth of the daughter the father became an habitual drunkard. He had four more children, of whom one was defective in mind, while the remaining three were complete idiots. In this case not only were the germ cells (spermatozoa) of the father devitalized and diseased by the alcohol circulating in his blood, but his four children yet unborn were seriously affected by the alcohol circulating in the *foetus in utero*, one after another. Was not that father a criminal? Should not the state interfere here? Fourteen years ago a committee of American physicians was appointed to investigate the influence of heredity as a cause of inebriety. Over 3,000 cases were investigated. Dr. Crothers, the chairman, says: "The heredity of inebriety is established from such studies beyond all possible question and doubt. The central conclusion, which cannot be stated too strongly, is: that the injury from alcohol to the cells and nervous tissue is transmitted to the next generation with *absolute certainly* in some form or other. It may

not appear always in the drink and drug symptoms, but the injury breaks out again in some neurotic trouble, defect or predisposition." "Scientists, properly, experiment first upon the lower vertebrata, guinea pigs, rabbits, and dogs chiefly, before they investigate the effect of drugs upon man. Prof. Hodge mated two alcoholized dogs. "Out of 24 puppies in four consecutive litters only four proved viable." He then mated two normal dogs. Out of 45 puppies in eight consecutive litters 41 were viable."

Prof. Latinen studied the effect of alcohol in small doses given daily for eight months to rabbits and guinea pigs. "Only 51 per cent of the alcoholized animals lived, while in the 'control cases,' to which only water was given, 62 per cent of the offspring lived." Dr. Feri says, "when guinea pigs are subjected to the continuous use of alcohol during pregnancy, morbid changes are found in the brains of the offspring. There is also a marked stunting and deficiency of growth and weight. There is a much greater tendency to disease and death."

THE HYGIENE OF MIND.

Prof. Domme investigated ten alcoholic and ten non-alcoholic families, with this result:

Ten Alcoholic Families—	
No. of children	57
Deformed	10
Idiotic	6
Epileptic	6
Non-viable	25
Normal	10%
Ten Non-alcoholic Families—	
No. of children	61
Deformed	2
Idiotic	0
Epileptic (2 backward)	..
Non-viable	3
Normal	88%

"There are hundreds of thousands of prostitutes in this country supported at the terrible expense of the manhood of this nation. What is the price? Moral leprosy and diseased bodies! Diseased organs manifesting themselves in their progeny, in idiocy, insanity, blindness and other sequelae From one-third to one-half of the United States and England results from the inefficiency produced from alcoholic indulgences. Twenty-five to thirty per cent of all the insane patients of the United States in our asylums owe their condition directly or indirectly to the abuse of alcohol. Dr. H. S. Williams has made a scientific investigation of statistics and concludes that:

"As a criminal estimate, two-fifths of the paupers, one-fourth of seekers of charity outside of almshouses, and nearly one-half of dependent children in America, owe their deplorable condition to alcohol." —*Dr. Phelps.* Surely hereditary alcoholism is an undeniable fact; and "whatsoever a man soweth that shall he also reap," in his own person and also in his descendents to the "fourth generation."

The Episcopal Council recently in convention in Lexington, Va., unanimously passed a resolution that hereafter the prospective bridegroom must produce a certificate from his family physician that he is free from "communicable disease" before he can be married. This is a movement in the right direction; and, if endorsed by other Christian denominations, will work out for the betterment of humanity.

Box 15, Station B.

SUB-MUCOUS RESECTION OF THE NASAL SEPTUM

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Charleston, W. Va.

(Read at Annual Meeting State Medical Ass'n, May, 1913)

In taking up the subject of sub-mucous resection of the nasal septum, I do not propose to occupy your time with any description of the actual operation per se, but rather give some of the conditions where a sub-mucons resection is necessary.

I wish first to give some of the conditions of the middle ear where a deviation of the nasal septum is a predisposing factor, by interfering with the physiological play of the cilia on the cells lining the walls of the eustachian tube: Chronic middle ear catarrh; acute purulent otitis media with all its sequlae, and otosclerosis as the sequela of a pathological chasge in the middle ear mucosa.

Among the nasal changes which may be caused by a septum deviation or deflection

may be mentioned: Chronic rhinitis, which when neglected becomes the chronic hypertrophic rhinitis; chronic catarrhal and suppurative diseases of all the nasal accessory sinuses. Among the nasal neuroses which may be treated to this septal condition may be mentioned a partial or total loss of the sense of smell. In hyperesthetic rhinitis, or hay fever, one may often find some pathological change in the nasal septum, which when properly corrected may go far toward alleviation of this international disease.

There are many eye conditions which may be traceable to some septal deviation. I therefore make it a rule to carefully examine the nasal cavities in all obscure ocular disturbances.

I have recently had a case of nasal hydrorhea which was complicated by a slight deflection of this nasal septum and a large spur pressing the inferior turbinate. I treated this case with more or less regularity for four months with no apparent relief. I then suggested a sub-mucous resection of the septum, which the patient finally agreed to, and am glad to report there was complete relief of her trouble. I am not able to give the connection between these troubles, and can only state the fact of its complete recovery.

Those among you who have been doing nasal surgery will no doubt recall cases of asthma which have been relieved by a removal of a spur from the posterior portion of the nasal septum or vomer which had been pressing upon the turbinate. I can assure you that a resection of the entire vomer will give a far greater relief.

In many of our text books much space is taken up in a description of the different varieties of spurs and deflections. For the sake of brevity I think it is well for us to remember that spurs and ridges may cause more or less obstruction to nasal respiration and drainage, or be the points of origin of reflex disturbances.

In deviations of the nasal septum we often have a low-grade inflammatory change in the periosteum and perchondrium. resulting in thickening which in turn may cause attacks of catarrh or purulent inflammation of the nasal mucosa and the nasal cavities.

I, therefore, wish to make the broad assertion that I believe every deviation or deflection of the nasal septum should be corrected unless there is some contra-indication.

Symptoms.—I shall only refer you to any work on diseases of the nose where you will find a full list of the symptoms of this trouble. On the other hand, I wish to impress upon you the necessity of carefully examining the nose in all cases of any of the above troubles whether you have any symptoms or not. For quite often you will find a spur or ridge on the septum with absolutely no symptom except disease for which you have been consulted.

I make it a rule to examine all cases where there is even a possibility, much less a probability of some trouble. Nor must you be contented with a simple inspection. My method of examination is to saturate a cotton mop with ½% solution of cocain and paint over the entire surface of the mucous membrane with it. After waiting about 5 to 10 minutes it will be possible to get a good view of the entire cavity, and you can thus obtain a knowledge of its exact condition. With the aid of a probe, you can easily determine whether the obstruction is a thickening or a spur.

The Operation.—The most, or at least all that I have seen, of the text books, will tell you that in preparing a patient you should be careful to thoroughly cleanse the nasal cavities with a normal saline solution. Now let me tell you, do not do it. I used to do this but I found that in many cases there was a tendency of the mucous membrane to be boggy for many days after the operation.

I order five grains of uritone every four hours for 24 to 48 hours before the operation, thus putting the nasal cavities in an almost aseptic condition, without disturbing the epithelium of the mucous membrane. I mop out the nose lightly with a 4% solution cocain muriate, and wait about 5 minutes until there is pretty full contraction of the tissues.

Nor do I believe in the use of a mixture of adrenalin chloride at first, but rather pack the nose thoroughly with cotton pledgets saturated with a 10% solution cocain muriate. In packing the nose with the anaesthetic, if care be taken to press out all surplus solution from the cotton, there will

be much less danger of any systemic effect. Having thoroughly packed both sides I allow my patient to rest for 15 to 20 minutes, when I remove the pledgets and again pack the nose with a mixture of 1 part of 1 to 1000 solution of adrenalin chloride to 7 parts of 10% solution of cocain muriate. The same care is taken as before. This I allow to remain in the nose about 15 minutes, and I have yet to fail in obtaining complete anaesthesia of the septal tissues and doing a painless operation and one free from systemic effect, and with the least amount of shock to my patient.

I now have my patient put upon an operating table, with head-rest fully elevated. My assistant washes the face with a solution of bichloride of mercury and then with alcohol. The eyes and upper part of the face are now covered with a bichloride towel. A rubber sheet is put across patient's chest and covered with bichloride towels.

Having everything in readiness I remove all pledgets of cotton from the nose, and apply a 1 to 1000 sol. adrenalin chloride to the entire mucous surface and in two to three minutes proceed with my operation.

I shall not bother you with a description of the actual operation, for I have no doubt that all of you are familiar with it.

The operation having been completed, I make no attempt to remove the blood from the nasal cavities, only taking care to remove all from the space where the septum was. I now press the periosteal and perichondrial surfaces together and put in compressed cotton plugs, and saturate them with sterile water. I allow my packing to remain in 24 hours, at the end of which time I remove all the plugs except the gauze surface of the one covering the wound. This I allow to remain in for another 24 hours. I then wipe out the nasal cavities with ½% solution cocain and spray the cavities from the posterior nares, with some bland antiseptic oil containing a small quantity of menthol camphor, or oil of gaultheria in liquid albolene.

The procedure of cleansing the nose I carry out at my office daily for about 4 days, when all swelling will have subsided and I direct my patient how to wash out the nasal cavities with a normal saline solution night and morning. I continue the use of the uritone until the fifth day after the operation.

On the third day after the operation, if I find there is yet a tendency for the tissues to be deflected I insert a small piece of dental plate wax into the cavity on the convex side, thus forcing the septum back where it belongs. This can be worn with very little discomfort as long as may be found necessary. Of course this plug must be removed daily, cleansed and replaced. I have never seen a case where it was necessary to wear the plug over 5 days. Occasionally we run across a case where there is considerable hemorrhage in spite of your adrenalin solution. In these cases I make it a rule to puncture my flap on the *convex* side near the floor, making free enough opening to assure drainage should there be any hemorrhage, thus avoiding the formation of a hematoma.

Since the use of the compressed cotton plugs, I have had less hemorrhage, but there is one danger to be avoided from their use, viz.: packing too tightly. For the average nose you will find that one plug on the concave side and two on the convex side to be ample. I suggest the use of two on the convex side so that there will be less tendency for the mucous membrane to drop back into its old position.

Under the very best of conditions we will sometimes have a little sloughing of the flaps, but I think this can be helped a great deal by the use of very thin plates of the dental wax. Dental wax is about 1 to 2 m.m. in thickness, and I shave this down on one side until it is so thin that you can almost see through it, and put the smooth surface next to the septum. Should there be a small perforation, put in a plate on either side and you will find the opening will be greatly diminished after 48 to 72 hours.

I have never found the necessity for suturating my incision, for if care has been taken to avoid bruising the edges of the flaps and the edges have been properly brought together before the cotton plug is inserted, we will usually have healing by first intention. Should the wound not heal properly the point of incision is the best place for drainage and for cleansing your wound.

Correspondence.

THE TUBERCULOSIS EXHIBIT CAMPAIGN IN WEST VIRGINIA

Editor W. Va. Medical Journal:

The Anti-Tuberculosis League of West Virginia, organized five years ago, gathered together a tuberculosis exhibit with money donated by persons interested. This was sent to 29 counties and 31 towns, to all places that could afford to pay for it. How to reach the smaller and more remote places and the remaining counties was a question. From time to time the exhibit was placed in the capitol building to impress the legislators with the necessity of legislation along this line, which finally resulted in the establishment of the State Tuberculosis Sanitarium. It was during this time that our present governor was president of the Senate, and he showed his very great interest in this question by speaking for the measure from the floor of the Senate. The bill passed without a dissenting vote in either house.

The exhibit was the means of arousing so much interest that a number of leagues were organized, resulting in two tuberculosis dispensaries, five tuberculosis visiting nurses, one summer camp for tuberculosis patients at Charleston, View Point Tuberculosis Sanitarium at Wheeling, and the state sanitarium called Hopemont at Terra Alta. But the work done has been almost wholly along the line of helping the tuberculous patient which certainly was necessary, yet little was done directly to educate the people in prevention and means to lessen the disease. No vital statistics of any special value have been kept except in Wheeling, where they had an exceptionally good health officer, Dr. W. H. McLain. Vital statistics in our state is a crying need. Although much has been accomplished by the league in its five years' existence, with but very little money donated and money raised by the Red Cross seals, much more could have been done had more persons become interested as members. The state has now begun to show a practical interest, first by establishing the sanitarium and at the last legislature making an appropriation for an educational campaign. However, this would not have been sufficient had not the railroad companies so generously come to our aid by giving free transportation for the tuberculosis exhibit car over all their lines and branches.

The following railroads have responded to our request: Baltimore & Ohio, Coal & Coke, Chesapeake & Ohio, Norfolk & Western, The Virginian, Western Maryland, all their branches and all branches owned by coal companies or others connecting with them. The car has been handled splendidly and the officers and employes have been most courteous and obliging. The car has already been on the first four roads mentioned and all their branches, visited 24 counties and 80 towns with an approximate number of visitors of 50,000.

Dr. Thurman Gillespy accompanies the car as lecturer and has rendered most efficient service. In a number of places he has lectured in church or hall before the opening of the car in the evening. The car is open from 10 to 11:30 a. m., 2 to 5 p. m. and 7:30 to 9 p. m. every day, and on Sunday from 3 to 5 p. m. The doctor has been on duty day and night faithfully instructing the people in prevention, and that they have been interested and anxious for such instruction has been shown by the large number of people who have visited the car. The car usually arrives one morning and leaves the next, but remains longer in large places. Dr. Harriet B. Jones, the director of the exhibit, precedes the car one or more days, giving talks in every school that can be reached by walking or riding, giving as many as eight talks a day in schools and a lecture in the evening to the public. She has visited 84 places and given 187 talks in schools to 16,751 pupils, and 53 lectures in the evening to 10,155 persoss. Twenty-four counties have been visited and every county seat in each, whether on the railroad or not. A ride of 31 miles to Summersville, Nicholas county; 12 miles to Glenville, Gilmer county; 12 miles to Union, Monroe county, and several others off the railroad, but it paid. A few incidents will show how much.

At Summersville, Nicholas county, Dr. Kinkaid had the matter in charge and he did the work well. In the afternoon a talk was given not only in the town school, but the country schools, and teachers came,

and there was an audience of not less than 200. At night every seat in the church was filled and many standing. The population of Summersville is 204.

The beautiful little town of Academy, population 181, four miles from the railroad, has a fine high school in the midst of a thriving country community. In the afternoon teachers from surrounding schools came to the talk given at the school and in the evening there were not fewer than 250 persons at the lecture.

When the car arrived at Seebert, four miles away, the children were taken in wagons and even a hay wagon was pressed into service. At some places the car was stormed, large numbers waiting outside until the others came out. Lectures have been given in court houses, churches, moving picture places, dance halls and school houses. Newspapers have given publicity and done very much to help. Literature has been distributed on the car, in schools, at lectures, on trains and at stations.

In such a campaign it seemed to be fitting that physicians should take the initiative and they have been asked to do so, to find a place for the lecture, put out advertising matter and arouse an interest. Have they done so? The amount of interest shown by the people was in exact proportion to the amount shown by the doctor or doctors.

At Academy the interest was no doubt due to the interest of the Drs. McNeel and Smith, and I would like to mention numbers of others who did everything in their power to make a success as well as looking after the comfort of the lecturer. Wherever an active interest was taken by the doctor the results were most apparent. In some places neither lecturer on or off the car would have known any doctor lived in the town. Not an ad would be in the length or breadth of the town. The lecturer would arrive, find a boarding house or hotel, and usually the worst, not knowing any, find a place for the lecture, visit the schools, announce the lecture and get out a fair-sized audience, showing the people could be interested. In one county seat the Methodist Episcopal preacher was at once interested, gave the use of his church, put out ads, announced lecture in the court room and had a fair-sized audience. The doctor had not done a thing, not even gotten a place for the lecture. In another county seat no ads were to be seen, and on inquiry in the drug store the druggist said, "Yes, there was a card somewhere," and hunting around drew one out from behind some things and written on it was given the time for the talk in the school, as if that audience always present, needed to be notified, and not a word about the evening lecture. A legislative acquaintance stepped up and on learning the situation said he would get the court house, and the principal of the school became interested and there was an excellent audience.

In some places I would not see or hear from the doctor while there. He neither came to lecture nor car. In one instance I was allowed to find my way from the hotel across a river in a skiff on a very dark, night, and through a town that had not a street lamp in it, and but for the kindness of the boatman I certainly would never have found my way. I had been informed that the lecture was to be at the court house, but when I arrived there, there was no light. I met some ladies and just then the church bell rang and they said it must be there, so I went with them and found a good audience and even the doctor was there, although he had not provided for my getting there. He did see that I got back. And these men belong to our State Medical Society. Is their lack of courtesy to a fellow practitioner due to indifference or ignorance.

Just one more instance to show the difference in results, according to the interest of the doctor. Both large places of equal sized population. Ads sent to a doctor in each in ample time.

In one the doctor secured a place for the lecture, but no ads were visible for either lecture or car. No one seemed to know anything about the lecture; result, no lecture. In the other place the doctor met the lecturer, directed her to a good hotel, provided some one to show the way to the school, also to the hall in the evening, was there himself, and had an audience of 300 persons.

Do not think for a moment that this lack of interest on the part of physicians was the rule. By no means. There are many splendid up-to-date men in some of

the most remote places, who are interested in their community and in the prevention of disease and most courteous, who did everything for the cause, who know how to do things and do them. Seventy-five per cent of the doctors showed an interest, some a very active interest and the results were most apparent.

Just after New Years the campaign will begin again. I will precede the car following out the same plan, going down the Ohio river road to the Norfolk & Western and Virginian, finishing the southern and western counties probably during January and February, then to the central and eastern portion of the state. One doctor in each place visited will be asked to put up ads, but we hope all will show an active interest, so as to make this campaign as far-reaching as possible. Arouse an interest in your people and get them out. Write to the director for any information, or if you want lecture or car. I want to take this opportunity to thank all the many physicians who were so kind, courteous and helpful in the places visited, and I am sure they will be gratified to see results in the future and glad that they helped to bring them about.

HARRIET B. JONES, M.D.
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Selections

A SUCCESSFUL METHOD OF PERFORMING SHOCKLESS OPERATIONS BASED ON A CLINICAL EXPERIENCE OF 3,000 CASES.

George W. Crile, M.D., Cleveland, Ohio.

It is the purpose of this paper to offer evidence upon which a new principle of operative surgery is based. My argument assumes that man is a motor being in the sense that Sherrington uses this phase: it assumes that physical action and emotional activity are only expressions of motor stimulation: it assumes that there are in every active animal and in man stores of energy which when released are expressed in motion or emotion; and that as these stores of energy are consumed fatigue or exhaustion is produced. We shall present evidence to show that inhalation anesthesia does not wholly prevent the discharge of energy caused by an operation; that the discharge of energy of the brain cells is caused by emotional excitation, such as fear, just as readily as by physical injury—and also that the brain cells show physical changes corresponding to the exhaustion.

Turning first to the effect of physical injury, I have found that animals subjected to sufficient trauma under ether or under nitrous oxide anesthesia present a state of low vitality or surgical shock, and that their brain cells show corresponding physical changes. Under nitrous oxide, as compared with ether, the animals required approximately three times as much trauma to produce an equal amount of depression of vitality, and equal physical changes in the brain cells. What is the cause of these changes in the brain cells and the loss of vitality?

First of all, let us inquire as to whether or not inhalation anesthetics act on all parts of the brain alike.

If inhalation anesthetics acted on all parts of the brain alike, then the function of all of the brain cells would be suspended—that is to say, the patient would be dead. Beginning then with the premise that only a part of the brain is asleep under inhalation anesthesia, we may ask what is the effect on the awake brain cells? These cells respond to the physical injury of surgical operation by an effort to escape from the injury. The awake brain cells are trying to escape from the operating table and to escape from the surgeon, and these cells are just as wide awake and are just as active as the cells of the brain in the normal wide awake state. This statement is based on the following observations:

During a surgical operation there is, in response to every incision, every pull of the retractors, indeed to every physical contact, a change in the pulse, the respiration, and the blood pressure. These changes are a part of a physical act, an effort at escape from the injury. This is further shown by the fact that if the anesthesia is light and the operator is rough, then the patient moves purposelessly on the operation table. It is this that leads to the exhaustion of the operation and the physical changes in the brain cells. The entire so-called subjective

mind is unanesthetized, hence is fearfully punished in the course of operation.

Let us take still another viewpoint. Suppose that instead of the usual anesthesia we gave our patient curare—giving at the same time artificial respiration by intratracheal insufflation. Such a patient would not be able to move a muscle nor could he utter a sound. There would be absolute muscular relaxation, and death-like quiet during the operation, but in spite of the fact that the muscular system would be wholly paralyzed the mind would be perfectly clear and the sense of pain normally keen.

Now what would be the effect upon a human being if a prolonged surgical operation were performed under curare? What would be the state of the nervous system of such a patient when finally he emerged from the muscle-paralyzing influence of the curare and could express his horrible experience in words? This is precisely the predicament of the subjective mind of our daily operation. It is as completely unprotected under ether as under curare—and suffers just the same.

It has been shown that animals under curare and morphia when subjected to trauma succumb to shock-producing trauma as readily as they do under ether. With these facts we can understand by what influence a strong, robust patient who enters the operating room in the full tide of health an hour later emerges broken and beaten and shattered, requiring months, perhaps years, to fully recover. It is for the same reason that when run down by a railway train and mangled, man is shattered and broken; as he is if he has passed through a horrifying experience such as that of having a pistol pressed against his forehead in the night by a highwayman; or of being the witness of a murder; or of undergoing any of the nerve-shattering stimuli of life. These, and all of these, are motor stimuli, and whether they impair or whether they break the nervous system their effect is just the same as the effect of surgical operations.

There is an interesting fact concerning the psychic state of the patient at the time of the operation. If the patient is in grave doubt as to whether or not he can survive the operation; if he lacks confidence in the hospital or in the surgeon, the patient has what in psychology is known as a low threshold, and if he goes under the anesthetic in this state the effect of any physical injury will be augmented and throughout the entire anesthesia there is manifested the evidence of fear in the respiration and the pulse and in the way in which he reacts to the anesthetic and the trauma of operation. These patients take the operation poorly. It is as though the patient went under the operation with his motor set at high speed, so that the energy of the body is consumed more rapidly, and hence the exhaustion or shock is increased.

On the other hand, we know that if the field of operation is temporarily disconnected from the brain by the use of a local anesthetic, then no matter how severe, nor how extensive, nor yet how prolonged the physical injury in the zone thus blocked, no exhaustion follows, and no brain cell changes are seen.

What are the mechanisms that receive the injury impulses which are transmitted to the brain and cause a discharge of nervous energy, leading to exhaustion, to altered personality, to nervousness and all the chain of evil consequences? These mechanisms are the nerve endings, the nerve fibres and all of the nervous system. The nervous system acts as a unit, as a whole, and responds to but one stimulus at a time. Hence it is that if one part of the body is injured the entire nervous muscular system acts in a self-defensive manner.

Now, in the body there have been implanted innumerable nerve receptors for the purpose of effecting adaptation to environment. Some of these receptors, such as those assisting in acquiring food, may be designated beneceptors, while other receptors have as their function the protection of the body against harmful or nocuous contracts. These are *nociceptors.* The nociceptors are not distributed over every part of the body equally, but are more numerous in those parts which were most frequently, in the course of evolution, subjected to injury.

Hence, we find in the skin the nociceptors are most numerous in those parts most exposed to contact with the outer world, viz.: in the hands and the feet: the back being less exposed has fewer nociceptors. In the deep protected parts of the body there are

few nociceptors. In the brain which through all time was protected by a skull, no nociceptors are found. The brain has no pain sense. One may probe the brain of an awake patient at will without even his knowledge. It follows, therefore, that the effect of an operation in this or that portion of the body is dependent upon the phylogenetic exposure, or the number of nociceptors the part contains.

Physical injury of any sensitive area—that is, an area having nociceptors—causes a discharge of nervous energy leading ultimately to exhaustion. The exhaustion is due to forced driving of the motor mechanism. Equally well may exhaustion be produced by certain perceptions through the special senses, such as hearing or seeing a dangerous enemy.

Now, the human machine may be driven by a physical contact stimulation of the nociceptors implanted within the body, or it may be driven by perceptions through the special senses. Whatever the cause may be, the stimulus is always through the awakening of associative memory—that is, all action is on the law of association through memory—that is, through *phylogenetic association.*

Harmful or nocuous associations are called *noci-associations.* If, then, an operation be so planned that all harmful or nocuous associations are prevented, this state is designated *anoci-association*—that is to say, without *noci-association.* Practically applied, it means that a surgical operation performed on this principle must be so conducted that there is excluded from the brain all *noci-association.*

This may be accomplished as follows: The surgeon must have so thoroughly prepared himself for his work and so controlled his surgical surroundings, that he can truthfully say to his patient that his operation will be distinctly safer that his disease; that the operation will be so conducted as to be devoid of either painful or dramatic incident, and that he will have no unpleasant experience to reflect upon afterward. The patient should be given much personal consideration by the surgeon himself; and if no contra-indication exists the patient should be given the benefits of a solacing dose of morphine, or morphia and scopolamine. The management of a patient up to the point of anesthesia should be by nurses, orderlies and physicians who are humanitarian psychologists. The anesthetist should be even more of a psychologist and preferably a woman, as she is a more delicate recording machine. Anoci-association may be further promoted by the use of nitrous oxide, which is pleasant in comparison with suffocating ether, provided only that the anesthetist is an expert in the administration of this particular anesthetic. The safety of nitrous oxide in the hands of the expert is demonstrated by the fact that in Ohio four trained anesthetists—three in Cleveland and one in Toledo—have used nitrous oxide for general anesthesia in 19,000 cases without a single anesthetic fatality.

When under anesthesia the brain may be entirely isolated from the field of operation by a careful infiltration of a solution of 1-400 novocain just as completely as if no general anesthetic had been given, and during the operation a special consideration of accuracy and gentleness should be observed. In this manner an operation, however extensive, may be performed without materially driving the motor mechanism, hence without consuming nervous energy; hence it becomes a shockless operation. At the close the zone of operation is cut off for two days from communication with the brain by an injection of quinine and urea hydrochloride, so that the after pains and post-operative nerve-exhausting stimulations may be avoided.

ABDOMINAL OPERATIONS.

1. Excluding infants, the aged and patients with depressed vitality, we first administer, on an average, one-sixth of a grain of morphine and 1-150 of a grain of scopolamine one hour before operation.

2. If local anesthesia alone is employed, we then administer nitrous oxide, either alone or with ether added as required.

4. As soon as the patient is unconscious infiltration first of the skin and then of the subcutaneous tissue with 1-400 novocain is made. In order to spread the novocain immediate local pressure with the hand is applied. Anesthesia is immediate. Incision through this asesthetized zone exposes the fascia. The fascia is then novocainized, subjected to pressure and divided. This brings us to the remaining muscle or poste-

rior sheath and to the peritoneum. These structures are then infiltrated with novocain, subjected to pressure and divided within the blocked zone. If blocking has been complete, then upon opening the abdomen there will be found no increased intra-abdominal pressure, no tendency to expulsion of the intestines, and no muscular rigidity.

5. The peritoneum is next everted and infiltrated with ½ per cent solution of quinine and urea hydrochloride completely surrounding the line of proposed sutures and is subjected to momentary pressure. This infiltration serves as a block, and as its effects last for several days, it should prevent, or at least minimize, the post-operative wound pain and the post-operative gas pains, and by so much minimize post-operative shock. Quinine and urea cause a certain amount of edema of tissue lasting some time after the wound is healed.

6. The relaxed abdominal wall will permit exploration of the entire abdominal cavity with ease. If in the field of operation there is no cancer and no acute infection, then the following regions may be blocked as completely and in the same manner as the abdominal wall, viz.: the meso-appendix, the base of the gall bladder, the uterus, the broad and the round ligaments, the mesentery, and any portion of the parietal peritoneum. Operations on the stomach and intestines made without pulling on their attachment cause no pain, and hence require no novocain block. The closure of the upper abdomen is thus made as easy as the closure of the lower—all is done with the ease of relaxation. What is the result? No matter how extensive the operation, no matter how weak the patient, no matter what part is involved, if *anoci* technique is perfectly carried out the pulse rate at the end of the operation is the same as at the beginning—the post-operative rise of temperature, the acceleration of the pulse, the pain, the nausea and the distension are minimized or wholly prevented.

GRAVES' DISEASE.

I believe everyone will agree that a technique that can carry an advanced exophthalmic goitre case through an operation without increasing the pulse rate can all the more readily do as much for any other operation. This can be done by the following technique, the operation being either ligation or lobectomy:

If *ligation* is made it is performed without removing the patient from his bed. In performing ligation nitrous oxide may or may not be administered; but during the operation a complete local blocking with novocain is employed and the entire field is blocked by quinine and urea hydrochloride infiltration at the close of the operation.

If *lobectomy* is to be performed consent to operation is secured several days in advance, the patient being kept in ignorance of the day on which it will take place. The patient is anesthetized free from psychic strain, as he is under the impression that he is receiving an inhalation treatment.

When under anesthesia the patient is taken to the operating room. The division of tissue is preceded by a complete blocking so that no activating impulse can reach the brain. Before closing the wound a ½ per cent solution of quinine and urea hydrochloride is infiltrated into every part of the raw field with a hypodermic needle. The patient is kept unconscious, under anesthesia, until he has returned to his room and until his room is restored to its previous condition. In the course of the cycle from his room to operation and return the brain has received no activating stimuli, and there can be no change in the pulse.

The immediate control of harmful stimuli, however, is not the end of the benefits of this operative method. *The post-operative hyperthyroidism is prevented or minimized,* and to the same extent that the *immediate* results are improved so are the later clinical results improved.

What happens to a case of Graves' disease which is not under surgical treatment when subjected to a severe psychic shock—to a heavy strain or to deep worry? The disease is aggravated for weeks or for months and not infrequently death results. The stress of facing the operating room is not only immediately seen, but is perpetuated on the following days and weeks and months by its frequent recall. From this handicap the *anoci* patient is free, and by so much is the convalescence speeded on its way.

CLINICAL RESULTS.

The test of any research, any theory, is the clinic—and the clinic only Any theory is worthless unless it gives practical results. The clinical results I can report have been confirmed by the personal experience of a number of good clinicians—Bloodgood, Cabot and others. The work of the nurse is greatly minimized and the clinical aspect in or out of the operating room is altered. My associate, Dr. W. E. Lower, and I during the past year performed 729 abdominal sections under this method with a mortality rate of 1.7 per cent, and in the Lakeside Hospital service, where all kinds of acute emergencies are met, and where most of my own private work is done, there were performed by my associates and myself in the past year operations on 2,672 patients with a mortality rate of 1.9 per cent, and in the last 1,000 cases .8 of 1 per cent, a result never before approached in the Lakeside Hospital.

SUMMARY.

The brain being a tissue of surpassing delicacy is damaged with wonderful facility by injury and by fear and worry. The good risk patient when operated by almost any method by almost any surgeon of experience, will recover from his operation, but the delicate nervous organization is only too frequently shattered by the experience. We now understand why. Though the principle is clear, the technique demands to a certain extent a re-education of the surgeon; it demands a certain amount of detail and precision; it demands far more consideration for the patient; but through anoci the destiny of a patient is to a greater degree placed under the control of the surgeon, who through it is enabled to reduce both the morbidity and the mortality.—*Southern Medical Journal.*

"Over the door of every immoral resort," says a leaflet recently issued with the authority of leading alienists, "might truthfully be written, 'Incurable insanity may be contracted here.' If self-respect, the desire for the good opinion of others, the influence of religious training, and the attractions of home life are not sufficient to prevent this kind of wrongdoing, the danger of contracting a disease which may result in incurable insanity should be sufficient."

I wish I could bring that thought-provoking paragraph to the attention of every boy and young man, of every father of sons, and of every educator of youth in America. No comment of sermonizing could approach it in forceful suggestiveness.

THE OPEN WINDOW.—A medical inspector of the Philadelphia public schools recently made an experiment to determine the value of cold fresh air in school rooms, with the cooperation of the teachers and parents of the pupils.

He opened the windows at the top and bottom and kept them open during the entire winter. The room was shut off from the heating plant of the building except when the temperature fell below 45° F. The children wore extra wraps and had frequent drills and exercises. Week by week during the fall, winter, and spring he weighed and examined the pupils, watched their study and their play and compared their progress in health and scholarship with that of pupils in another room of the same building. In the latter room the pupils were of similar grade and of about the same numbur, but the room was heated and ventilated by the usual methods. The pupils in both rooms were normal healthy children from the same kind of homes so that the test was as fair, accurate and searching as possible.

At the end of the experiment it was found that the pupils in the open window room had averaged a gain in weight more than twice as much as those in the warm air room. They had also been wholly free from colds and had been more regular in attendance than the others. They were also more alert, learned their lessons better, needed less review work, and were better behaved. In health and happiness and in development of mind and body they had a clear advantage over the others. This Philadelphia experiment not only gave to children who were well some of the good things which nature intended that they should enjoy but it demonstrated to school efficials and parents the advantages of low temperature in the school room.

The result of this experiment was that the school board in Philadelphia has authoriezd the establishment of open window classes in several other schools.

In New York City there are 15,00 prostitutes and 150,000 males who frequent the houses of ill repute which shelter these unfortunates, pitiable creatures. Would that the moral transgression were the only evil, but when it is stated that 90 per cent of these women are infected with venereal disease, compute the ratio of men who go forth infected frim their embraces, to disseminate the infection, God only knows where. We of the medical profession can see the innocent bride in her youthful beauty, blushing beneath her bridal veil, crowned with the blossoms of orange, walking down the church's aisle, leaving behind her the strains of Mendelssohn and the fragrance of Jacquinots only to proceed in a direct path to the operating table and the suffocating fumes of the anesthetic, a sacrificial offering to cupidity and fanaticism.—*N. Y. State Jour. of Medicine.*

The West Virginia Medical Journal

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WHEELING W. VA., JANUARY, 1914

THE JOURNAL is issued on the first of each month.

Subscription, - - - - - - $1.00 per year
Single Copies, - - - - - - - 15 cents

All communications to this Journal must be made to it exclusively. Communications and items of general interest to the profession are invited from all over the State. Notices of deaths, removals from the State, changes of location, etc., are requested.

Our readers are requested to send us marked copies of local newspapers containing matters of interest to members of the medical profession. Name of sender should be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer.

ADVERTISEMENTS.

Advertising forms will go to press not later than the th of each month.

Advertisements of proprietary medicines must be accompanied with formulae. Rate cards sent on application.

REMITTANCES

Should be made by check, draft, money or express order or registered letter to Dr. S. L. Jepson, Ch'n of Pub. Com., 81 Twelfth Street, Wheeling, W. Va.

Editorial

The editorial tripod sends to all of our friends the New Year's greetings, and may you remain with us and bring with you into the fold many new members to sit with us at the intellectual feast to be prepared by our members and friends.

SMALLPOX CONTROL

During the past year smallpox has prevailed quite extensively in a number of the counties of this state. The type of the disease has been so extremely mild as to deceive a number of physicians and lead to the mistaken diagnosis of chicken pox. After quite a large experience in the management of the disease, it is the writer's opinion that it is often quite difficult to diagnosticate with positiveness a severe case of chicken pox from a very mild one of smallpox. This fact has been emphasized ever since the Spanish-American war, soon after which this mild type of smallpox made its appearance in this country. But it seems to the writer that this form of the disease has been made so familiar in the past few years, that it is no longer justifiable for a physician of even ordinary intelligence to precipitate an epidemic of smallpox in his community by calling these cases chicken pox and neglecting all precautions to prevent the spread of the disease. This mistake is especially inexcusable if the patient be an adult, since it is a well-established fact that chicken pox in the adult is one of the rarest of diseases, and comparatively few cases occur after the age of ten years even In over forty years of general practice the writer has seen but two cases of this disease in grown persons. How much better will it be, then, to regard every case of this nature as smallpox and treat it as such so far as sanitary precautions are concerned, until a definite diagnosis can be made. All should know that the eruption of chicken pox dries up in five or six days and that the eruption of smallpox does not reach its full development until the ninth day. In view of the wide-spread prevalence of this mild form of smallpox, we urge our readers to get their text books and refresh their minds as to the symptoms of the two diseases here considered, and thus be better prepared to deal properly with a disease which entails so much inconvenience and expense in any community where it makes its appearance. That the health of the people may be better guarded we here repeat some suggestions recently officially issued as to the proper control of smallpox:

HOW CONTROL SMALLPOX.

1. When called to a case of this disease isolate the patient in a room as free from furniture as possible.

2. At once vaccinate every member of the household.

3. Secure the names of all persons who have been in any way exposed to the patient, search them out and vaccinate immediately, keeping them under observation for 16 days, and seeing them daily for the last six days of this period.

4. But one person should be admitted to the room of any patient, and that person should not be allowed to come in contact with any others.

5. If several cases occur in a community, by far the safest and most economical measure to stamp out the disease is, to put

all in one building, if such can be found. In this way we avoid the infection of a number of houses with their contents, and the necessary destruction of much property that cannot be disinfected, such as pillows, etc. We also avoid the great expense entailed by having to support at public expense a number of quarantined families.

6. After the death or recovery of the patient, close every crack and crevice in the room, moisten the room with steam and fumigate with formaldehyde or sulphur. (1) Place a metallic bucket in a tub of hot water in the middle of the room, put in the bucket not less than 9 oz. of powdered permanganate of potassium, and pour on this 20 oz. of formalin. 2-Or, crush six pounds of stick sulphur, put in bucket as above, add a little alcohol, and set fire to it. In either of the above cases close the door, stop all cracks from the outside, and leave the room closed for twenty-four hours. Then open all doors and windows, and have all woodwork and furniture in the room cleaned with boiling water; better still with a bichloride solution. All bed and body clothing that can be washed should be soaked in a bichloride solution 1 to 2,000, and then boiled and washed. Destroy what cannot be disinfected.

In our recent official connection with this disease we have encountered very great prejudice against vaccination, and in the rural districts extremely few children have been vaccinated. Since we have a positive preventive in this little operation which is so rarely attended with even unpleasant symptoms, and since the prevailing type of smallpox is so extremely mild, it becomes a question whether it would not be better to let the people have their own way about it and contract the disease which many seem to prefer to a slight scratch of their arm. In an editorial in a Parkersburg newspaper last autumn, occurred this sentence: "How can vaccination be of the slightest benefit when the medical profession so utterly disagrees as to its alleged merits?" What can we expect from the general public when a man who is presumed to be intelligent enough to edit a paper will make such a ridiculously absurb and false statement as the above. In over forty years of mingling with physicians in county, state and national medical societies, we have never met with one solitary physician who opposes vaccination, and yet this editor presumes to tell his readers that the "profession utterly disagrees." "Though thou shouldst bray a fool in a mortar with a pestle, yet will not his foolishness depart from him." —S. L. J.

THE WAR ON TYPHOID

The *Journal-Lancet*, the organ of the Minnesota State Medical Associatios, in an editorial which is a review of a double page article in the *Minneapolis Tribune* of November 16, takes the state legislature to task for allowing 233 persons to die of typhoid and 2,300 cases besides in the state during 1912, while "farmers and bankers were crying for protection against a possible business loss" from an epidemic of hog cholera. A hog is estimated to be worth $20 and a human life $7,500. The loss of 100,000 hogs valued at $1,000,000 occurred this year in Minnesota. The 233 human lives lost from typhoid fever would be worth $1,747,500, to say nothing of the loss entailed by the sickness of the 2,300 who did not die. The State Board of Health has about $67,000 a year to fight all communicable diseases, of which typhoid is only a fraction. Why not start a legislative campaign for humans first and hogs afterward? Both animals would benefit enormously. Typhoid can be stamped out with a hypodermic syringe filled with a non-irritating and safe vaccine. Hog cholera, a similar disease, can be controlled by the same means, but the serum must be as carefully prepared as typhoid vaccine. The administration of the remedy should be as carefully done as on the human. Will the legislature see that man is superior to the hog and make its appropriations with due care and respect?

The criticism of the legislative body is well taken. The people of West Virginia will take notice. Much of it applies with equal force to our legislative body, although present conditions are much better than ever before. We confidently believe that all contagious and infectious diseases will eventually be stamped out and this largely as the result of legislative enactment. G. D. L.

TUBERCULOSIS AND THE CHILDREN

The state school superintendent of Indiana has been stirring up the question of prevention of tuberculosis among the school children of that state. Along with the Indiana Society for the Study and Prevention of Tuberculosis, he is having the school discuss the subject. Often the children have received a certain amount of instruction from their teachers. A statewide contest to see who could produce the best composition on the subject is to be held, and bronze, silver and gold medals awarded to the winners. The awards are to be first given by counties, and then the best from each county are to be extended. West Virginia may take a hint along this line. Personally we think the idea a good one. If the entire population take an interest in this subject the time is not far distant when there will be no "great white plague." G. D. L.

The use of heroin by dope fiends seems to be on the increase. Its use is especially notable in parts of Pennsylvania. This year the coroner's office in Philadelphia county has held inquests on five sudden deaths from heroin poisoning. In each case the victim was a heroin fiend and was on a heroin debauch and took an overdose. The substance apparently is far more dangerous for drug users than morphin or cocain. Drug fiends apparently are able to consume relatively large quantities of the other two drugs, but any sudden and material increase in the amount of heroin taken is very liable to prove fatal. As indicating the wide sale of this substance, it is known that one druggist in Pennsylvania, whose store was located in an undesirable section of his city has been buying heroin tablets in 25,000 lots.

The labels of proprietary and other medicines purchased by laymen should be carefully scrutiniezd for a statement which is required by the National Food and Drug Act, of the quantity or proportion of heroin or any derivative or preparation thereof. The word "heroin" on any label should be regarded as a danger signal, according to the experts of the Agricultural Department.

"A sixty days' tour of the well-known European surgical clinics is being arranged under the auspices of the Georgia Surgeons Club, to close with the meeting of the Congress of Surgeons of North America in London the latter part of July, 1914. Representative surgeons are invited, and may secure details of the trip from the secretary, Dr. R. M. Harbin, Rome, Ga."

SPECIAL FRACTURE NUMBER.

The American Journal of Surgery will present in January an issue of their journal devoted exclusively to fractures and their treatment.

The following subjects will be presented by distinguished surgeons:

"Astragalus Injuries," by F. J. Cotton, M.D., Boston, Mass. "Diagnosis of Fractures," by Lewis A. Stimson, M.D., New York. "Position in the Treatment of Juxta Epiphyseal Fractures at the Hip and Shoulder," by Fred. Albee, M.D., New York. "A Splint for Maintaining Nail Extension During Transport," by John C. A. Gerster, M.D., New York. "Fracture of the Skull; Roentgen Ray as an Aid in Iit Diagnosis," by W. H. Luckett, M.D., New York. "Vicious Union," by James K. Young, M.D., Philadelphia, Pa. "The Immediate and Remote Results of Fractures of the Skull and Spine," by Chas. Elsberg, M.D., New York. "Conservation in the Treatment of Fractures," by Wm. L. Estes, M.D., South Bethlehem, Pa. "Some Phases of Fracture Treatment as Based on Hospital Experience," by E. S. Van Duyn, M.D., Syracuse, N. Y. "The Treatment of Fractures," by E. P. Magruder, M.D., Washington, D. C.

State News

STATE BOARD OF HEALTH.

At the last examination of the State Board of Health, held in Parkersburg, November 10 and 11, twenty-four applicants were before the board. The following, all regular, were successful in making the required grade. The lowest reached 81.1 and highest 96.5. The names and addresses of these are as follows:

Walter W. Point, Huntington, W. Va.; V. L Wetherby, Filbert, W. Va.; J. B. Whittington, Winston-Salem, N. C.; George W. Abersold, Salama, W. Va.; George W. Scott, Weirton, W. Va.; A. W. Crews, Thurmond, W. Va.; C. M. Arnold, Standard, W. Va.; M. N. Mastin, Coketon, W. Va.; J. O. Hicks, Huntington, W. Va.; John E. Robertson, Huntington, W. Va.; Alex M. Moore, Bramwell, James E. Hereford, Rankin, Pa.; W. F. Montgomery, Philadelphia, Pa.; U. S. G. Jones, Petersburg, Va.; William G. Price, Salisbury, N. C.; J. Q. A. Webb, Norfolk, Va.

Of the eight who failed three are from Leonard Medical College, and one each from Cincinnati Eclectic, University College of Medicine, Richmond, Va.; University of Louisville, and University of Athens, Greece.

Eight men were also licensed from other states under the reciprocity regulations, namely: John L. Kable, Staunton, Va.; William M. Moses, Uvalde, Ga.; Vanderbilt Brown, Durham, N. C.; Solomon L. Cherry, Clarksburg; William A. Brown, Cartersville, Ga.; William R. Hudson, Luray, Va.; Walter F. Dutton, Carnegie, Pa.; Lewis L. Highsmith, Yukon, W Va.

* * *

The State Association secretary wants us to give three cheers for Dr. Cure, secretary of the

Lewis County Medical Society, who is the first of the county secretaries to send in a list of paid-up members for 1914. We, therefore, give three cheers and a Tiger for Dr. Cure.

* * *

We are glad to report that Ex-President T. W. Moore of Huntington, who has been off duty for many weeks, as the result of a serious accident, is again at his office.

* * *

Dr. Tunis Nunemaker of Williamson, who was recently operated on for appendicitis in Baltimore, is again at home and doing well.

* * *

The Huntington General Hospital has recently installed a hydrotherapy and massage department at an expense of $3,000.

* * *

BORN.—To Dr. and Mrs. C. T. Taylor, of Huntington, a daughter. To Dr. and Mrs. D. T. Conley, of Williamson, a son.

* * *

REMOVALS.—Dr. William H. Triplett, from Thacker to Williamson. Dr. Archie Bee, from Cairo to Oklahoma City. Dr. E. S. Carr, from Echo, W. Va., to Narrows, Va. Dr. Viola Pennypacker (now Mrs. William H. Scandlin) has removed from Huntington to Fort Worth, Tex. Dr. J. R. Sole, from Benwood, W. Va. to Clarington, Ohio. Dr. H. Bernard, from Huntington to Welch, W. Va. Dr. T. H. Elliott, from Gauley Bridge, W. Va. to Chattanooga, Tenn.

* * *

Dr. Thurman Gillespie, who has for many weeks been conducting the tuberculosis exhibit car through the state and lecturing on the subject, is again at his home in Wheeling.

* * *

Dr. Wheeler, at the McKendree Miner's Hospital, is an exceedingly popular man, and the profession in that section of the state are very anxious that he be retained in his present position.

* * *

After a six months systematic course of study in Europe and the eastern cities in Skin and Genito-Urinary Diseases, Dr. W. S. Robertson of Charleston is now prepared for consultation and practice in these specialties.

It will be gratifying to the physicians of the northwestern part of the State as well as of eastern Ohio and south western Penna., who have been dependent on the old City Hospital for hospital facilities, to learn that the new hospital building—now called The Ohio Valley General Hospital—and which has been under course of erection for the past 18 months, is about completed. It is expected to be open for patients some time this month.

"Some of your hurts you have cured,
And the sharpest you still have survived,
But what torment of grief you endured
From evils that never arrived."

Society Proceedings

CABELL COUNTY SOCIETY.

HUNTINGTON, W. VA., Dec. 12th, 1913.

Editor W. Va. Medical Journal.

Dear Sir:—The regular November meeting of this society was held on the evening of the 13th in the Hotel Frederick.

The address of the evening was given by Dr. Compton Riley, of Baltimore, Md., on "The Early Diagnosis and Treatment of Potts' Disease, With Special Reference to Adults."

The regular December meeting of this Society was held in the Hotel Frederick on the evening of December 10th. The following officers were elected for 1914: President, Dr. W. E. Neal, of Huntington; Vice President, H. C. Salter, Huntington; Treasurer, I. R. LeSage, Huntington; Secretary, James R. Bloss, Huntington; Member Board of Censors for three years, H. J. Campbell, Huntington.

A Committee on Medical Legislation was appointed as follows: F. A. Fitch, A. K. Kessler, C. C. Hogg, H. A. Brandebury and I. C. Hicks.

Dr. C. M. Buckner was elected to membership.

Fraternally Yours,
JAMES R. BLOSS,
Secretary.

FAYETTE COUNTY SOCIETY.

KAYMOOR, W. VA., Dec. 4th, 1913.

Editor W. Va. Medical Journal.

The Fayette County Medical Society held its regular monthly meeting in the assembly rooms of the Dunglen Hotel at Thurmond on the 2nd of December.

The papers were very instructive and Dr. Hartley's paper on typhoid fever was timely and interesting.

This meeting was devoted principally to the business connected with the closing year, and the prospect for a greater and better society for the coming year is very encouraging.

The annual election of officers was held at this meeting, and the following officers were unanimously elected: Dr. S. W. Price, President, Scarbro; Dr. W. E. Bruce, 1st Vice President, Herberton; Dr. O. J. Henderson, 2nd Vice President, Montgomery; Dr. H. C. Skaggs, Secretary-Treasurer, Kaymoor, re-elected

H. C. SKAGGS,
Secretary.

LITTLE KANAWHA AND O. V. SOCIETY.

This Society is moving for legislation against all forms of quackery. They think the State Board of Health should have larger authority in the matter of revoking the licenses of physicians who make false and misleading statements in their advertising. The matter was discussed at the last meeting of the Society which agreed to do its share toward creating sentiment favorable to such legislation. Drs. Sharp and Price were appointed a committee to consider the matter.

The committee on the sale of poisons reported

that it had communicated with Congressman Moss, looking to the advancement of national legislation on the subject, with special reference to carbolic acid and bichloride tablets, which, being the most easily obtained, are the most dangerous. Replying, Judge Moss promised to bring the matter to the attention of Chairman Mann, of the Committee on Pure Food Legislation. Assurance was also received from Governor Hatfield that he would assist in the effort to lessen the evil. Prosecuting Attorney Hiteshew also informed the society that he would do what he could to stop illegal sales in the county.

Dr. Price read a paper on "Cancer and Some of Its Phases," and it was made a subject of general discussion. Dr. Sharp read a paper on "Hypertrophy of the Prostate Gland," and made a plea for early operations in such cases.

The matter for holding day meetings for the accommodation of out of town members was postponed to the next meeting, which will be a business one for the election of officers.

Dr. W. S. Link, president, presided at last night's meeting, and twelve members attended.

THE McDOWELL COUNTY SOCIETY.

OFFICE OF THE SECRETARY, IAEGER, W. VA.,
Nov. 12th, 1913.

Meeting called to order at 10 a. m. by the President, Dr. J. Howard Anderson, in the private office of Dr. Charles F. Hicks, Superintendent at the Miners' Hospital, Welch, W. Va.

Members present: Drs. F. L. Round, J. H. Anderson, Chas. F. Hicks, J. E. Hatfield, J. B. Kirk, E. F. Peters, W. L. Johnston, Thomas W. White and S. D. Hatfield; visitors, Drs. W. D. Amick and Tripplett, of Mingo county, and Mr. S. P. Younglove, of Walton, Ind.

Clinical Cases—Dr. W. D. Amick reported a case of acute appendicitis that he had just brought into the hospital for operation, which was of interest because the patient had refused an operation until this time, after having suffered some three or more acute attacks with recovery Duration about twenty-four hours. Operation revealed a gangrenous appendix with considerable pus. Patient doing well.

Dr. Hicks spoke of a case for diagnosis. Patient, young woman suffering from an osteoma at the sterno-clavicular articulation. No history of injury to the clavicle or surrounding tissue. Tumor appeared some ten months ago and seemed to be enlarging progressively. The tumor was first thought to be an osteo-sarcoma, but all indications at the last clinical examination pointed to a tubercular affection of the bone. The case was generally discussed and the diagnosis was suggested to be completed by securing a specimen of the tumor for microscopical examination.

Dr. Round reported a malignant case of diphtheria that had terminated fatally. The patient, a child of ten years, had been seized with a sore throat, but not of such severity as would cause alarm. The doctor saw the case within the first twenty-four hours, but was unable to make a positive diagnosis on account of the absence of the diphtheritic membrane. He described an acute pharyngitis, with the tonsils involved, and the whole of the mucous membrane intensely congested. With the profound depression and all symptoms indicating a severe infection, a diagnosis of diphtheria was made and 4,000 units of antitoxin was given. A second dose was administered with some improvement. A membrane did appear at or about the time the first dose of antitoxin was administered, which faded away with the last dose, but the extent of the infection completely overwhelmed the little patient, causing death from its effect on the heart muscle and kidneys. This case was discussed by Dr. Anderson, who had seen the patient twice with Dr. Rounds.

Dr. Anderson reported a case of laryngeal diphtheria that was tugging so hard that he was compelled to intubate. Child improved and slept well after intubation, but became overwhelmed with toxins and died. Cause of death thought to be from the lymphatic nature of the child, producing a very rapid absorption of the poisons which soon caused a fatal termination and before antitoxin could get in its effect. The lymphoid nature of the child with diphtheria was evidenced in three other members of the family, who had Dr. Anderson to remove much enlarged tonsils and adenoids. The smallest boy of three did not rally well, following his operation, and caused the family and physician some hours of distress.

The initial dose of diphtheria antitoxin was brought in for a general discussion by Dr. Triplett, from Mingo county. The doctor thought that, perhaps, Dr. Round had administered too small a dose of antitoxin in the case he reported that terminated fatally. Gave as his opinion that nothing less than 5,000 units should be given as the initial dose, then double each time in case it became necessary to repeat the remedy. It was agreed by Dr. Round and all who had entered into the discussion that the initial dose should be no less than 5,000 units and in some instances should be from 5,000 to 20,000 units, all depending upon the severity of the infection.

The cost of antitoxin to the patients among the poorer classes was brought to a discussion by the members, and the member on legislation was instructed to get all the information along this subject that he could reasonably procure from other states and to arrange for offering a resolution to our State Medical Association for free antitoxin in this State.

Drs W. C. Hall and J. E. Hatfield were appointed for papers. Dr. Hall was unavoidably absent. Dr. J. E. Hatfield read a very interesting paper with the report of a case of puerperal infection which he had treated successfully with the mixed bacterins. Dr. Hatfield's paper was discussed first by Dr. Johnston, who quoted authorities conflicting in their opinion as to the radical treatment of puerperal infections. The doctor advised watching your case and to make the greatest effort possible to make a diagnosis, and then the treatment would be comparatively easy. Dr. Peters talked some time on the management of puerperal cases and impressed the members to use great prophylatic measures in caring for their obstetrical cases and they would

have few such cases to deal with in practice.

Dr. S. D. Hatfield gave as his opinion that from the physician himself was due first the protection, and secondly, his patient should have such care to prevent infection being carried into the parturient canal, that he should use sterile gloves in each and every case of obstetrics.

Dr. White asked the members for their opinion as to the exposure necessary in maternity cases to more carefully protect the parts and to prevent infection. It was unanimously agreed that the physician should expose his patient in all cases.

Dr. Andersin created much interest and discussion when he stated that he repaired all cervical tears at the time of the delivery, and gave as his opinion from considerable experience that this was the preferable time to make these repairs. Drs. Kirk, Hicks, Peters, Johnston, Round, Triplett and Hatfield disagreed with Dr. Andersor as to the time of repairing cervical lacerations. It was agreed by the members who spoke that they would only advise immediate repair of cervical tear in cases of hemorrhage of such extent as to necessitate immediate interference.

The application of Dr. W. B. Stevens by transfer from Mercer County Medical Society on account of having moved into this county was read by the Secretary. Dr. Stevens was elected to membership in accordance with the by-laws and the Secretary was instructed to notify accordingly.

The Committee on Antitoxin Legislation failed to report and the Chairman, Dr. Anderson, stated that he was procuring all information that he could get on the subject from the State of Virginia (as Virginia has antitoxins free to all classes) and from other sources available, and that he had decided to write a paper for the State Medical Association in Bluefield next year, and that he would embody in his paper such resolutions as he thought, after due study and thorough consideration, best suited along this line and would submit them to the society at one of the future meetings for the approval of the members. The report of the committee was deferred until some future meeting.

The committee appointed to draught resolutions pertaining to physicians' fee for making report of injuries to the Public Service Commission, submitted the following resolution:

"Believing that all men should receive just compensation for all work performed by them, that we, as physicians, should charge and receive $1.00 for each and every report made to the Public Service Commission of West Virginia in case of injury to those persons for whom we are called upon to render professional services.

"That the said Commission shall be required to make payment out of the funds in their hands, as we are required to make duplicate reports in all cases, no matter how slight, that come under our care, and as the cases where the injury shall not disable the person from work for more than one week, he is not entitled to any compensation from said fund, it would not be just for him to pay for the report, therefore, the Commission should pay it..

"That we, as coal company physicians, most of us being employed to look after the needs of their workmen in a professional way, are debarred by Section No. 27 of the Act from receiving payment from the Commission that other physicians are allowed; that if the Commission refuses to pay us a just compensation for making out these reports in the required form and mailing said reports to them, each and every member of this Society shall refuse to render such reports until the Commission shall agree to pay us a reasonable sum for the work of service rendered.

"That in those cases where the physician is entitled to payment for services rendered from said fund, the charge for making out the report shall not be enforced"

After a general discussion of the above resolution, a motion was made and carried, to table the resolution until some future meeting and a committee appointed to consult a competent attorney-at-law as to the legal method to pursue to obtain compensation for the members doing the service for the Public Service Commission and exempted by the Act from pay for such services. Drs. Round, Peters and S. D. Hatfield were appointed by the President to consult an attorney and to report at the next regular meeting. The Secretary was instructed to make duplicate copies of the resolutions submitted and to mail to each member of the Society.

A Legislative Committee was appointed and Drs. Peters, Johnston and White were given that honor by our President.

Communication from Gov. H. D. Hatfield expressing his willingness to pay the assessment fee for the purpose of entertaining the State Medical Association next year, was read by the Secretary and it was unanimously agreed among the members to accept the assessment fee, and the Secretary was instructed to notify him accordingly.

Communications from Drs. Ferguson and Stevens with their contributions for the amount of $10.00 each to the Society for the purpose of entertaining the State Medical Society was read by the Secretary and the Society gratefully accepted the contributions from the gentlemen and voted thanks.

Motion made, seconded and carried that the Society hold a reception for its members in the McKinley Club rooms at the next regular meeting, and that the hour be changed to 7:30 p. m. The Secretary to be instructed to invite such persons or physicians as he thought proper to attend the banquet. Also that the cost of the entertainment not to exceed $75.00.

The chair appointed on Committee of Arrangements Drs. Hicks, Sameth and Anderson.

Adjournement. S. D. HATFIELD,
Secretary.

Minutes read and approved December 10th, 1913.

THE MARION COUNTY SOCIETY.

FAIRMONT, W. VA., Dec. 29th, 1913.

Editor State Medical Journal.

At the annual meeting of the Marion County Medical Society the following officers for 1914

were elected: President, Dr. J. A. Graham, Fairville; Secretary, Dr. H. R. Johnson, Fairmont; Treasurer, Dr. W. H. Sands, Fairmont; Board Censors, Dr. C. O. Henry, Fairmont; Delegates to West Virginia State Medical Association, Drs. C. O. Henry and C. L. Holland, Fairmont; Alternates, Drs. J. W. McDonald and E. W. Strickler, Fairmont.

With best wishes for a happy and prosperous New Year, I am

Very Sincerely Yours,

H. R. JOHNSON,

Secretary.

Reviews

VACCINE AND SERUM THERPY—Including also the study of infections, theories of immunity, specific diagnosis, chemotherapy. By EDWIN HENRY SCHORER, B.S M.D., D.P.H., formerly Assistant Thomas Wilson Sanitarium, Mount Wilson, Md., Assistant Rockefeller Institute for Medical Research, New York City., etc. C .V. Mosby Co., St. Louis, Pubs. $3.00.

This is the second edition and has been entirely rewritten and enlarged. It is an up-to-date treatise on the subjects presented, which are just now engaging great attention from the profession. Chapter 1st treats of infection, chapter 2nd of immunity, in which is presented the various theories, with a full exposition of the side chain theory, and also the opsonin theory. Chapter 3 deals with specific diganosis which is very fully considered. Chapter 4 treats of specific treatment, the preparation of bacterial vaccines, dosage, etc. The standardization of antisera, indications for their use, mode of administration, serum disease, are fully set forth. Chapter 5, which closes the work, treats of specific diagnosis, treatment, and prophylaxis in the different infections. The work is a valuable one and fully informs the profession in matters of great interest to us all.

GOLDEN RULES OF DIAGNOSIS AND TREATMENT—By HENRY A. CABLES, B.S., M.D., Professor of Medicine of the College of Physicians and Surgeons, Consultant of Jefferson Hospital, etc., St. Louis. 2nd edition, revised and rewritten, St. Louis. C. V. Mosby Co. $2.25.

This edition has been rewritten and enlarged, a number of new rules having been added where experience has demonstrated their valne. It is an epitomy of practice covering a large part of the field of medicine and is a very useful book for hasty reference. The price seems rather high for a book of this size.

CLINICAL LABORATORY METHODS—A manual of Technique and Morphology designed for use of students and practitioners of medicine. By ROGER SYLVESTER MORRIS, A.B., M.D., Associate Professor of Medicine in Washington University, St. Louis. D. Appleton Co., New York, 1913.

This book deals entirely with methods and with Morphological elements of diagnostic importance. The author has not sought for a great many methods, but rather has aimed to select one method or more of approved value. The book will prove very useful to both practitioner and student. The profession need laboratory work. —G. D. L.

MARRIAGE AND GENETICS—Laws of human breeding and applied eugenics. By CHARLES A. L. REED, M.D., F.C.S., Fellow of the College of Surgeons of America, former President of the A. M. A., Professor in the University of Cincinnati. The Galton Press, Pubs., Cincinnati, Ohio. Price $1.00.

This is one of the many books touching the subject of race improvement which are flooding the market in recent years. From a man of the author's prominence, a book of value is to be expected, and the reader will not be disappointed. The author was prompted in writing this little book by a desire to overcome the ignorance which so often keeps innocent people from protecting themselves and their children from disease and degeneracy, of which in his large surgical experience he had seen so many evidences. He treats of the general laws of genetics, race poisons and applied eugenics, and gives much valuable information to the reader.

E. MERCK'S ANNUAL REPORT OF RECENT ADVANCES IN PHARMACEUTICAL CHEMISTRY AND THERAPEUTICS. Volume 26, 1912.

This report grows with the years. The first article is one of fifty pages on Lecithin and is very instructive, presenting a number of not generally known uses for this valuable remedy. Professor R. Heinz, of the University of Erlangen, has a timely article on standardiaztion of digitalis preparations. Many other articles are here presented on the newer preparations as well as on new uses of some of the older. The edition is limited. To secure a copy send fifteen cents for postage.

SKIN DISEASES IN GENERAL PRACTICE. THEIR RECOGNITION AND TREATMENT.—By HALDIN DAVIS, M.B., B.Ch., B.A., Oxon., F.R.C.S., Eng., M.R.C.P., Physician in Charge Skin Department, Paddington Green Children's Hospital, etc., London, Oxford University Press, 1913.

A very practical work and ought to be of great value to the general practitioner who runs across many cases of skin diseases which we find difficult to manage. The diseases are classified according to location on the body, thus making it more easy for reference, for when diseases are classified according to etiology, one not knowing the cause does not know where to look.—G. D. L.

A HAND BOOK OF USEFUL DRUGS—A selected list of important drugs suggested for the use of teachers of Materia Medica and Therapeutics, and to serve as a basis for the examination in Therapeutics by State Medical

Examining Boards. Prepared under the direction and supervision of the Council on Pharmacy and Chemistry of the A. M. A. This is a little book of 160 pages, the general scope of which is told in its title. All drugs that are useless or of little value have been excluded from consideration. It is, in short, a brief work on Materia Medica, and in our judgment no student should be taxed with the study of any drug not contained in this book. Get the book, study carefully in a larger work the drugs here treated of, and you will need no others.

Medical Outlook

BLOOD PRESSURE AS IT CONCERNS THE GENERAL PRACTITIONER.

This is the title of an article in Virginia Medical Semi-Monthly for July 11, by Louis G. Beall, M. D., Greensboro, N. C. He concludes by saying the sphygmomanometer should be used by the general practitioner in the following cases:

1. In examining every new patient.
2: In treating cardio-vascular disease.
2. In all obstet. cases. (Here he says if blood pressure is above 150, there is danger of eclampsia).
4. In all examinations as to state of health.
5. In order to contribute to the knowledge of this subject
6. In acute abdominal pain—helps differentiate between biliary and renal colic.
7. In suspected epidemic meningitis.
8. In psychiatrical cases.
9. In suspected cases of hemorrhage.
10. In tuberculosis.—G. D. L.

TOO MUCH SURGERY.

"Cure with a minimum of risk and a maximum of results should be the constant end and aim. As Finney has said, 'None knows better than the experienced surgeon how far-reaching are the possibilities for good or evil lurking behind every surgical procedure.' Therefore, the indication should always be exceedingly clear, the need great, and all of the safeguarding and exacting conditions fulfilled. The unnecessary operation is the crying shame of present-day surgery. These are performed by the 'operator,' not by the surgeon. There is a vast distinction between an operator and a surgeon. There are many of the former, but few of the latter class comprehending as it does men of saneness, probity and judgment. How difficult is the acquisition of surgical judgment! Judgment is the queen of mental attributes in the ordinary affairs of life; but how all-important and responsible is the exercise of that judgment, even if acquired, when brought to bear on the health, the limb and life that is so trustingly and confidently placed in the hands of that man who alone can resolve it."—*Haggard's Oration in Surgery.*

PREGNANCY AFTER REMOVAL OF BOTH TUBES.

Dr. Freeman, of Louisville, in the *Kentucky Medical Journal,* January 15, tells of a woman aged 20, from whom on April 17, 1911, he removed the ovary and tube on left side entire, ligating with the usual transfixation ligature, one arm of which was brought around the tube and tied at the cornu of uterus, the other brought under the fimbriae above the ovary was resected by a wedge-shaped incision and the tunica albuginea sutured over. The stumps of both tubes were sutured over with No. 1 plain cat-gut. The ligature used in tying being double No. 1 twenty-day cat-gut. After appendix was removed, the abdomen was closed in the usual way.

The patient was then turned on her side and a necrotic coccyx was removed.

She was put to bed and made a good convalescence. May 16 she left the hospital.

November 15 she came to my office. She had menstrated three times since operation; in June, July and August, each time quite scanty.

I examined her and found the uterus was enlarged and palpated a small mass in the neighborhood of the right ovary. Saw her again in January, 1912, uterus still larger and quite tender. Saw her again in March, and made a positive diagnosis of pregnancy.

Dr. Montgomery reported to me that on June 3, 1912, he delivered her of a normal child, labor quite tedious and painful.

The operative history of this case presents no unusual features, but the gestation history is exceedingly rare. A case in which a woman about 400 days after both tubes, one entire ovary and the greater part of the other had been removed, gave birth to a normal child should be classed among the anomalies and curiosities of medicine."

TOXIC ACTION OF SALVARSAN.

Dr. K. Brandenburg, in Medizinische Klinic, reports the case of a robust man of 38 who had had no symtoms of syphilis after thorough treatment ending four years before; his wife and children were healthy, and the Wassermann test was negative. But on general principles he thought he had better have a prophylactic injection of salvarsan, and an intravenous injection of 0.5 gm. was given him by a skilled and experienced Berlin specialist. Nausea, vomiting and diarrhea followed the injection at once and the patient died the fourth day in convulsions. In a second case an intravenous injection of 0.1 and 0.2 gm. in the course of a few days was followed by paralysis of both arms. The patient was an anemic man of 33. The reaction of degenartion was pronounced, but conditions gradually improved in the course of six months, although the arms were still weak. There was no suspicion of syphilis in this case and the salvarsan was given merely as a means of administering arsenic in convenient form to influence the pallor, physical depression and tendency to dizziness which had persisted after an operation for chronic appendicitis. No cause for the anemia was discovered.—*Journal Medical Society of N. J.*

FOR THE BEGINNING DOCTOR.

By F. A. Pitkin, M. D.:

Don't commit suicide if all the people in town do not come to you the first year.

Don't lose your temper when the pay fails to come in. Smile.

Don't kick the dog or cat if things go wrong at home.

Don't crowd the "good-pay" patients too hard or they will leave you.

Don't feel bad when cantankerous patients quit. If they were being treated by the Angel Gabriel they would find fault with the expression of his face or the cut of his wings.

Don't waste time getting angry at the deadbeats. If you can't get anything else out of them, get them to "holler" for you—loud!

Don't fail to make the most thorough examination of every patient and base your diagnosis on what you find—not on what the patient tells you.

Don't get discouraged. Ours is a noble profession, one demanding all your powers, yielding a fair income and commanding more and more of the respect of the community.

Don't keep at it too constantly. "All work and no play makes Jack a dull boy."

Never give up the ship!

CHANCRE AFTER SALVARSAN.

M. Rosenthal, Baltimore *(Journal A. M. A.* December 21), reports a case of chancre making its appearance after an intravenous injection of salvarsan in an old case of syphilis. The Wassermann test had been negative for years, but symptoms of locomotor ataxia had appeared. The examination of the serum from the sore showed undoubted spirochetes and the Wassermann was positive. The case is reported on account of its unusual features—the development of a chancre four days after an intravenous injection of salvarsan and that a man suffering from the effects of syphilis should contract the disease again in the usual way.

PERNICIOUS VOMITING OF PREGNANCY.

Williams *(F. R. C. P. in Glasgow Medical Journal)*, thus sums up his valuable paper:

1. The underlying factor in all cases of vomiting of pregnancy is probably an imperfect reaction on the part of the mother to the growing ovum.

2. In most cases this is only a predisposing cause, while a reflex or neurotic influence is the exciting factor, and cure usually follows its removal.

3. Williams still holds to the classification of reflex, neurotic and toxemic vomiting. Of these the neurotic is the most and the reflex the least frequent type, while the toxemic is the most serious.

4. Pronounced toxemic vomiting is accompanied by charcteristic lesions and profound changes in metabolism.

5. The significance of a high ammonia coefficient is not specific. It may be a manifestation of toxemic vomiting, of starvation following neurotic vomiting, or of an acidosis due to various causes.

6. It should be regarded merely as a danger signal, while the differentiation between the various types is possible only after careful clinical observation. If improvement does not promptly follow appropriate treatment, the existence of toxemic vomiting should be assumed and abortion promptly induced.

7. In the absence of genital lesions, a low ammonia coefficient indicates neurotic vomiting, which can be cured by suggestion and dietetic treatment, no matter how ill the patient may appear.

8. In primiparous woman a vaginal hysterotomy is the most conservative method of emptying the uterus. Nitrous oxide gas or ether should be used in preference to chloroform for anesthesia.

TRAVELS OF A NAIL SWALLOWED.

Dr. G. Rosenbaum, Philadelphia, reports this case in the N. Y. Med. Jour.:

A small and poorly nourished child, two and a half years of age, swallowed a long wire nail on December 16, 1912. Shortly after this he vomited and the vomitus was tinged with blood. The mother gave the baby purgatives and tried home remedies, but with no result. Two days later, after a dose of castor oil, the child suffered severe abdominal pain and became cyanotic for a short time. December 20 the child was referred to Rosenbaum. The temperature was 99 F., pulse 116 and respiration 28. No tenderness or rigidity of abdomen on palpation. Six skiagrams were taken, the first on December 20 and the last on December 29, the day the nail was passed from the rectum. All told, the nail was in the alimentary tract fourteen days. Four days it lodged in the stomach and six days were required to complete the journey through the small intestine, and the remaining four days for its passage through the large intestine. The child had daily evacuations during this period, and, while it was quite restless during its stay in the ward, it was in no sense ill. The temperature never rose above normal.

PREVENTION OF PERITONEAL ADHESIONS.

While the introduction of foreign bodies into the peritoneal cavity is, as a general rule, to be avoided, the writer believes that, in cases where extensive raw surfaces have been exposed as the result of breaking down peritoneal adhesions, the best method to prevent the latter reforming is to introduce several ounces of sterile vaselin oil before closing the abdomen, and then at the earliest possible moment to encourage peristalsis: firstly by hypodermic injections of pituitrin and then by enemata and by purgatives. The absorption of vaselin oil from the peritoneal cavity is not complete for at least ten days, and if during this period the bowels can be kept moving a minimum of fresh adhesion will be secured.—Wilkie, *in The London Lancet.*

The West Virginia Medical Journal

Published Monthly
by
The W. Va. State Medical Association

Under the Direction
of the
Committee on Publication.

COMMITTEE ON PUBLICATION:
S. L. JEPSON, Chairman.
L. D. WILSON. G. D. LIND. C. A. WINGERTER.
Entered as second-class matter August 10, 1906, at the Post Office at Wheeling, W. Va.

Vol. 8—No. 8. WHEELING, W. VA., FEBRUARY, 1914 Subscription Price $1.00 per Year Single Copies 15 Cents.

Original Articles

ECLAMPSIA.

R. M. Baird, M.D., Wheeling, W. Va.

(Read before Ohio County Medical Society, November, 1913.)

My text this evening is to be found in the history of the three following cases of convulsions in pregnant women which have occurred in my practice in the past five years:

Case 1. *Primipara*—Twenty-five years old, of exceedingly nervous temperament, endured the agony of the prolonged first stage of a dry labor. This past, the head distending the perineum, without a premonitory symptom, she was seized with a convulsion of moderate severity—tongue not bitten. The labor was terminated with forceps as hastily as was consistent with safety, the patient comatose. Two hours later a second convulsion, which was the last. Chloral hydrate was administered for 24 hours. No after effect upon the kidneys or otherwise.

Case 2. *Primipara*—Twenty-one years old; within ten days of her expected time of confinement was suddenly seized with an acute attack of haemorrhoids, said to be exquisitely tender and painful. I was unable to go to her at the time, but sent an experienced nurse, who all of one night, by fomentations and otherwise, sought to relieve her. The next morning the patient was found intensely nauseated, haemorrhoids as represented. While preparing to examine her she, without other symptoms, became convulsed. The attack was brief but typical—tongue not bitten. Calomel in one grain doses up to five, followed by a brisk saline, this repeated on two successive days, cleared up the haemorrhoids and nausea. No return of the convulsions, and normal labor with healthy child nine days later. The urine moderately albuminous for two or three days following the convulsions.

Case 3. *Primipara*—Nineteen years old. Confinement expected November 27th. On October 10th she notified me that she was greatly swollen, and upon visiting her I found her the subject of a general oedema. A mercurial and saline course caused the almost total disappearance of the oedema. Basham's mixture was given following the calomel, chiefly for its diuretic effect, as examination of the urine, frequently repeated for some time before and after the appearance of the oedema, failed to show incompetence of the kidneys. The patient's appetite, particularly for sweets, was uncontrollable, no attention being paid to my directions as to diet. October 23rd she was reported as more swollen than before, and I again prescribed calomel and a purge. She also complained of pain in the epigastrium, for which morph. sulph., grain one-quarter, hypodermatically, was given. She vomited incessantly, and early on the morning of the 24th I was advised that she could not see. Before I could get to her, the word came that she was in a convulsion, of which she had five severe attacks between 7:00 a. m. and noon. The tongue was severely bitten. Between the hours

above noted, she was given twenty minims of Norwood's tincture of veratrum viride hypodermatically, and two drops of croton oil were placed upon the tongue. The slightest noise or movement caused her to twitch and start. Consciousness was not completely lost between the convulsions, and after two or three loose stools the convulsions ceased. I had the benefit of Dr. Jepson's advice in consultation, and in view of the cessation, apparently, of the convulsions, and in the interests of the child, we decided to try to carry her to her expected time of confinement. Dr. Jepson advised the administration of ten grain doses of chloral each second hour. Calomel and salines were repeated upon the 25th, and the oedema rapidly subsided. Nausea entirely disappeared, and the craving for food was intense. Daily examinations of the urine, which was scanty, showed it to be loaded with albumin. She was given lemonade, buttermilk, all the water she could be induced to take, toast, and fruit. At half past three on the morning of the 29th, I was notified that she was again in a convulsion, it having occurred during sleep. The veratrum viride, twenty minims, was given in one dose, hypodermatically, but the chloral could not be exhibited on account of nausea, and her resistance to enema made another convulsion probable. Having determined to terminate the pregnancy, should a consultant agree, Dr. Jepson was again summoned. His opinion coincided with mine. Dr. Jepson administered chloroform, and after as rigid antiseptic precautions as a private house permitted, the examination showed the os sufficiently dilated to admit of the membranes being easily ruptured. This was about 11:30 a. m. At 8.00 p. m., after an uneventful labor, a small female child was born. No symptoms of convulsions during the labor, nor since. Urine albuminous (daily examination), but albumin fast disappearing, and no casts.

The cause of eclampsia is unknown, innumerable theories to the contrary notwithstanding, and to enumerate these theories would be profitless. The most plausible theory is that of a toxaemia—some poison circulating in the blood which produces necrosis of the liver, and, directly or indirectly, degenerative changes of the kidneys, and also convulsions by direct toxic action on the anterior cerebral cortex. Certain it is that underlying conditions most often present are those involving the kidneys or the liver, or the kidneys and the liver. The liver is always involved primarily or secondarily, and some cases seem to be caused by toxicoses or toxaemia due alone to hepatic insufficiency, the kidney changes being secondary.

"Occasionally, after a severe labor, or during the last part of the second stage, the parturient will have a single convulsion, or a second milder one without, or with a very slight albuminuria. This is called "eclampsia reflectorica," and is the discharge of the over wrought nervous system, but in all probability there is a toxaemic element also."

This quotation from DeLee accurately describes the first case presented this evening. The second case illustrates equally well eclampsia of hepatic origin—the haemorrhoids and their prompt disappearance under the use of calomel and salines, together with the complete relief of the nervous symptoms, all exemplify the role played by hepatic insufficiency. The third case is probably of the renal and hepatic type, for although the urine had been examined at regular intervals by means usually deemed efficient and sufficient, and the kidneys found competent, yet the immense amount of albumin found in the urine after the convulsions seemed more than the convulsions alone could account for.

Eclampasia occurs once in about six hundred labors. By three to one more frequently in primiparae than multiparae. The prognosis is worse in multiparae. It occurs usually in the last three months of pregnancy. Twenty per cent. of the convulsions occur during pregnancy, sixty per cent. during labor, and twenty per cent. after labor.

Diagnosis—In eclampsia, the diagnosis that profits is that which perceives the approach of the malady while it is yet a great way off. The man who sees a pregnant or parturient, or puerperal woman in a convulsion, even though it be his first experience, does not need to be told as to what is before him.

Immediately upon being engaged for attendance upon an expected labor, a speci-

men of the urine should be asked for, and this examination should be repeated at regular fortnightly intervals until the last month of the pregnancy, when once a week is not too often.

The patient should be instructed, particularly during the last three months of her time, to report promptly any nausea, headaches, and puffiness, especially of the face and hands. Epigastric pain, and sudden failure of the sight are usually near precursors of the convulsions.

Convulsions and coma during pregnancy may come from brain tumors, tubercle, apoplexy, meningitis, pneumonia, epilepsy, hysteria, phosphorus and strychnia and other poisonings, uraemia, and true eclampsia. Characteristic for true eclampsia are repeated convulsions with coma, or at least lethargy, between them, early fever, and marked albuminuria, with other findings of renal involvement. The history of the case will almost always exclude poisoning. Epilepsy is to be eliminated by the history, and by the absence of the contracted pupils, and diminished or absent reflexes which occur in epilepsy. From uraemia it is impossible to separate true eclampsia, unless the pre-existence of nephritis is known, but often the general picture of the case impresses the observer as one of renal insuffiency, and again another case gives almost indubitable signs that the liver is at fault. Treatment in all cases is the same.

Prognosis.—Over twenty per cent. of the women afflicted with eclampsia die, and this rate has hardly been affected by changes of treatment in the last one hundred years. Statistics vary from 5.31 per cent to 45.7 per cent. for the mother, and from thirty to forty-two per cent for the child. Eclampsia during pregnancy has the highest mortality, during labor less, and during the puerperium least. Nearly one-half the children die, a result due to, first, prematurity; second, toxaemia; third, asphyxiation by the repeated convulsions of the mother, with prolonged cyanosis; fourth, drugs administered to the mother (morphine, chloral, etc.); fifth, injuries sustained during birth, especially forced delivery. The child may die of eclampsia after delivery.

Death comes from exhaustion, heart failure, toxaemia, (the system being overwhelmed by the poison, such cases being evidenced by deep coma with few or no convulsions), embolism, thrombosis of the pulmonary artery, fat embolism of the lungs, hemorrhage of the brain, pulmonary oedema, oedema of the larynx, and asphyxiation. Further, the patient is endangered by operations designed to deliver her. Ruptured uterus, postpartum hemorrhage from cervix tears, and sepsis may prove fatal. Infection is a common cause of death, and eclamptics show a decided susceptibility to it.

In individual cases the pulse is the best index. If full, hard, and below 120, there is no immediate danger, but if faster, weak, compressible, or running, the prognosis is bad. Symptoms of oedema of the lungs with cyanosis are usually precursors of death. Prolonged and violent fits, or short intervals between the attacks, or extreme jactitation are unfavorable symptoms. If the severity of the symptoms abates after delivery, the woman usually gets well. Apoplexy is almost always fatal, but sometimes part of the body will be paretic, or paralyzed from a focal oedema which disappears during convalescence. Anuria, and intense albuminuria are unfavorable symptoms, and more hope is justified as soon as the kidneys show signs of recovery

Treatment prior to convulsions.—Every pregnant woman should be considered a possible candidate for eclampsia, and should be watched and guarded accordingly. Should the family history indicate nervous instability, or should the personal history include eclampsia or declared renal disease before; if she has had any of the acute infections, or if she is of the "bilious type" one should be on the lookout.

Albuminuria is the most important finding, and it is never marked without toxaemic symptoms. Scanty urine with diminished solids is next in importance. Casts, if numerous, white or red blood corpuscles, with renal epithelium, show the acuteness of the process. Headache, nausea, and somnolence, with the above, all point toward eclampsia as the probable outcome.

Under these circumstances, (1st) The diet should be so ordered that just enough nitrogenous matter is given to sustain life in the form most easily assimilated, and that will leave the least amount of waste and by-

products, which throw extra work on the liver and kidneys. (2nd) The emunctories should be stimulated to throw off the poisons already in the blood. (3rd) Should the above treatment not have the needful effect, and should the evidences of renal insufficiency increase, the induction of premature labor is not only justifiable, but imperatively indicated.

Treatment is to be begun by putting the patient at once to bed and giving nothing but water to drink. If improvement is noted, an absolute milk diet is ordered. Gradually a full vegetarian diet with fruits and one egg a day may be allowed. Later, a little fish or chicken may follow, but never a full meat diet. Spices, tea, coffee, alcoholics, beef, veal, mutton and pork are strictly forbidden. Water in large amounts buttermilk, matzoon, and kumyss are recommended.

One may increase excretion by the bowels, the kidneys, the skin, and the lungs. A brisk saline purge is given at the start, and the bowels are kept open by alternating saline and vegetable cathartics. Water administered upon an empty stomach, night and morning, is both laxative and diuretic. The vegetable diuretics and diuretin are not recommended.

Woolen undergarments should be worn, even in summer, to protect the skin against chill. If the symptoms of toxaemia are urgent, hot wet packs may be ordered night and morning, but only if stimulants be immediately at hand and some one who knows how to use them. Women with weak hearts have died in such a sweat. With the possibility of pulmonary oedema overhanging the patient, the use of pilocarpine is absolutely interdicted. In advanced cases, where eclampsia is threatening and quick action is needed, the sub-cutaneous injection of 0.7% salt solution is a valuable means of starting the skin and kidneys.

If, in spite of the above treatment faithfully carried out, the evidences of renal insufficiency persist or grow worse, the pregnancy should be terminated.

Headache, twitching of the muscles, somnolence, nausea and vomiting, pain in the epigastrium, general oedema, high arterial tension, and marked albuminuria, indicate the near approach of the convulsions, while failure of sight is an almost immediate precursor.

Rupture of the amniotic sack is usually sufficient in multiparae to produce labor pains within twenty-four hours. In primiparae, the cervix may be packed with gauze for from twelve to twenty-four hours. Pains are elicited, and the tissues softened. After removal of the gauze, the membranes are punctured, the liquor amnii allowed to drain off, and, as a rule, the labor is soon terminated by the natural forces, or the os sufficiently dilated to permit the use of version or the forceps. Caesarean section has an evil name in the treatment of eclampsia, owing to its high mortality, but one can imagine a primipara in whom the cervix is closed, high, hard—with rigid vagina and perineum—the symptoms urgent, for whom an abdominal section would offer the only chance.

Treatment following the eclamptic seizure—There are three general plans of treatment. Two extremes, and one occupying a middle position. The first—Duhrssen's dictum—is after the first convulsion, put the patient in a deep sleep and deliver at once, and experience is accumulating to prove that this gives the best results. Peterson collecting 615 cases of early delivery (as soon as possible after the first convulsion) finds a mortality of 15.9% as compared with 28.9% in the same maternities under so-called conservative treatment. Another table shows 4% as against 31% respectively. Another strong argument for early delivery is the larger number of children saved thereby, estimated by various authors as two or three times as many.

The other extreme from Duhrssen's method is to put the patient to bed, give narcotics, stimulate the emunctories, and await the natural termination of pregnancy and labor.

"In medio,"—Use the medical treatment more or less, and hasten labor only when the patient's condition is evidently going from bad to worse.

By intention, and not by oversight, an eclamptic attack is only here described. The patient, if erect, falls unconscious. The pupils dilate, and the eyes and head are turned to one side. The mouth is open, then the jaw pulled laterally, and there may be a cry or sigh. The whole body be-

comes rigid. The features are distorted. The arms flexed. Hands clenched. The feet inverted. The toes flexed, and the whole person drawn to one side in a tonic spasm. This condition lasts for a few seconds, then the jaws open and close violently, the eyelids also, the twitchings beginning in the face, then usually one arm, then the leg, and now the whole body. This is a violent clonic convulsion, which may throw the patient out of bed. The tongue is protruded, often bitten, foam, often tinged with blood, oozes from the mouth. The respiration is completely stopped, the chest rigid. The bloodshot eyes protrude, the face is swollen, the cyanosis is extreme, the lips are purple. Gradually the convulsive movements remit, a few twitches are noted, the patient lies quiet, the heart beating violently. Then a long sigh, almost a sob, and stertorous breathing becomes established, coma supervening.

The patient should be at once undressed and put to bed, surrounded by pillows and watched by a trained attendant, preferably a physician. False teeth should be removed. To prevent biting the tongue, a large wooden clothespin should be wrapped with a handkerchief, and upon the approach of the convulsion, the cleft end slipped between the teeth, so that the elasticity of the prongs takes up the champing of the jaws. The patient should be prevented from hurting herself by her violent movements, but is not to be too forcibly held, as heart failure may result. Examinations are to be omitted if possible, visitors should be excluded, and there should be no loud talking, jarring of the bed, etc., as, in tetanus, these external irritants may produce a convulsion. I strongly advise against the use of anesthetics in eclampsia. First, because the respiration is completely stopped, the chest rigid, hence no vapor is drawn into the lungs, hence their uselessness. Again, the respiration being resumed with a deep sobbing inhalation, an overwhelming dose of the anesthetic may be taken, which may still forever the laboring heart. Yet again, the well known degenerative action of chloroform upon the liver, and the irritant action of ether upon the kidneys, render their use irrational. Anesthetics find their place in eclampsia only at the time of the induction of labor, and then only in the smallest possible quantities, ether preferred. These conclusions, the result of long reflection, I am happy to find confirmed by the latest obstetric authority. Morphine increases the coma, and the children undoubtedly often die of morphine poisoning. Chloral adds but another poison to the already overloaded circulation.

The treatment advised is, as soon as possible after the first convulsion, and even before, if the convulsion is deemed inevitable, twenty minims of Norwood's tincture of veratrum viride, should be given hypodermatically, and a word, if you please, upon that subject. From conversations with my professional brethren, I have gained the impression that by some of them at least, the veratrum is regarded as curative in eclampsia. This is not true, and the belief might possibly result in neglect of the real curative procedures, according to our present theory of causation. The veratrum is an adjuvant, and an adjuvant only, but, in my opinion, a valuable one. It is useful in eclampsia because, by its paralyzing action upon the motor side of the spinal cord, it, as it were, holds the patient still, while the eliminative measures are pursued. It may be repeated in twenty minim doses every hour or two, until the pulse drops to the neighborhood of sixty. Then discontinued until a rise of the pulse to 120, or a renewal of the convulsions points to its further use.

Venesection is one of the oldest remedies for eclampsia, but with the advent of chloroform it lost its prestige. It is now coming into favor again as an adjuvant. In cases of the apoplectic type, in which the convulsions recur frequently in spite of treatment, the pulse is full and strong, the face cyanotic, by withdrawing a pint of blood one removes considerable poison, and also favors diuresis and diaphoresis.

The measures to be pursued to bring about elimination, and if necesary, the induction of labor, having been set forth at length above, need not be repeated here.

To conclude. The treatment of eclampsia resolves itself under two broad lines—the second alternative to the first—elimination and the induction of labor; and may it not be said that the second is merely a

species of, not alternative to, the first, since the child, the placenta, and the syncytium have each and all been accused of being the *fons et origo* of the malady..

TREATMENT OF TUBERCULOSIS IN THE HOME.

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There is no doubt that the sanatorium is the ideal place for the treatment of those affected with tuberculosis, but it will never be possible for the majority of consumptives to secure it. Home treatment, therefore, will always be an important factor in the reduction of the mortality from this dreaded disease. It is especially considered because it is easier to persuade a patient in the earlier stages to submit to it; while it is often impossible to persuade the majority to go away for treatment until the disease has advanced so far as to make its ultimate cure, or even relief, very doubtful. The success of the fight will necessarily fall largely on the general practitioner, since he is the first one to see the case and is often relied on solely for treatment.

It is not so very long since a diagnosis of tuberculosis was seldom made prior to the time when emaciation, night sweats and a general weakened condition, with high pulse and temperature, had ushered its victim so close to death's door that to advise the patient of his real condition was considered poor practice. To pronounce a patient a consumptive was similar to reading his death warrant. Such unscientific procedure not only prevented the patient from realizing his condition in time to be benefited, but allowed him, ignorant of his real condition, to spread the disease germs, thus infecting others. This time has passed, and now physicians are making a diagnosis in time to save many from an untimely grave, and are also teaching them to take precautions to prevent its spread. Tuberculosis has been with us since the beginning of medical history, and until recently was looked upon as an incurable disease, even by the physician.

It is the commonest of all diseases and more people die from it than from any other, but, on the other hand, more people recover from tuberculosis than die of it.

To quote the words of Robert Koch in the last paper he wrote before his death: "Tuberculosis, as is well known, manifests itself in the most varied ways, frequently occurring in such insignificant and latent forms that no sharp distinction can be made between those affected and healthy persons." As has been proven at the autopsy table, many have had tuberculosis and recovered without ever knowing it or having a diagnosis made. Our highest medical authority, Sir William Osler, gives figures to show that more than the majority of all grown persons have at some time suffered from this disease.

The success in the treatment of tuberculosis will depend mainly upon the time of diagnosis. If the case is diagnosed in the incipient stage and treatment instituted at once at least eighty per cent of the cases would recover. If the disease is moderately advanced only sixteen per cent of the cases will be apparently cured. When it has reached the advanced stage before a diagnosis is made the chances are very slight even for an arrest.

The physician who says that he does not like to treat tuberculosis because he cannot get results is neglecting his patients and failing to do his duty to uphold the profession he has chosen. The success in the treatment of this disease, when an early diagnosis is made, is as satisfactory as in any other. Having made a diagnosis (which, for the good of both patient and physician, should be made early), the next important step is to institute treatment at the earliest possible moment.

There is little satisfaction in simply telling a patient he has a tendency toward tuberculosis, or that if he does not do as he is advised he will develop it. When a diagnosis has been made he should be told and made to realize the seriousness of his condition. This will be a hard blow at first, but it is the only way to get his co-operation, and without that there is little to be gained in the way of getting him to carry out the advice of his physician. When he has been made to realize the condition and the importance of "taking the cure," the

*Read before the Oil City Medical Club November 6, 1913.

physician will not only have his appreciation, but his support as well.

I will consider the treatment under two heads, prophylactic and general. The most important is the prophylactic and should begin at birth. The cause of tuberculosis is in every civilized country and we are daily exposed to the disease, from cradle to grave our lives being one continuous struggle against it. Everything possible should be done to give the new-born a fair start in the world. The mother's health should be looked after, and whenever possible all babies should be raised on the breast. The home conditions should be looked into; the child should not be kept in a crowded or ill-ventilated room. Children with nasal or throat trouble should have the same corrected as soon as possible. All children should be required to pass a physical examination before entering school. The teachers should also be required to pass a physical examination. The child of today will be the man of tomorrow. Are we going to let him grow up an invalid and be a burden to the community, or see that he is strong and healthy, able to carry the burdens of life and be a help to those around him?

The tubercular patient should be made to observe the rules of prophylaxis in the strictest sense. The careful patient is not dangerous to any one and it is absolutely as safe to be in his company as in that of a healthy person. The fear of tuberculosis in the past has done much to hinder the progress of stamping out the disease. The patients often do not take the precautions they should for fear of being laughed at or shunned. It will be a great step in advance towards the prevention of disease when the pocket sputum cup becomes as popular as the handkerchief. Spitting not only causes tuberculosis, but many other diseases.

The tubercular should always sleep alone, should never expectorate except into a burnable sputum cup, and gauze or a paper napkin should be held over the mouth when coughing. A handkerchief should never be used unless it is burned, for there is danger of thus infecting the employes of the laundry. All bed clothing of the patient should be fumigated before being laundered. The patient should have his own dishes, cups, glasses, etc., and they should be thoroughly boiled each time after being used. Anything which comes in contact with the patient's mouth should be burned. Those who are careful and carry out the rules of prophylaxis are not dangerous to any one. It is the one who does not know he has tuberculosis or the careless one who spreads disease and is to be feared.

Before taking up the general treatment I wish to say something in regard to the relation of physician and patient. To successfully treat tuberculosis in the home the physician is up against a stiff proposition. It is much harder to treat a long drawn out disease like tuberculosis than it is to treat one like typhoid or pneumonia. An important thing is to get the patient to realize the seriousness of his condition, or, on the other hand, that his recovery will depend largely on himself and the co-operation he gives his physician. There will be times when he will need encouragement. He will have to feel that his physician is taking every interest possible in his case. In no disease is effect of mind over body more in evidence than in tuberculosis.

The patient should be given a thorough examination to ascertain general conditions, the nature and extent of complications These should be carefully charted as well as the condition of the chest. The patient should be given instructions how to take and record pulse and temperature, also all symptoms as they appear from day to day. This will not only make the patient take more interest in his case, but will also aid the physician in keeping in daily touch with his condition.

General Treatment.—We will consider the general treatment under the following heads: Rest and exercise; good food and fresh air supplemented by drugs and tuberculin.

Rest.—Rest in the treatment of chronic lung condition, has probably been neglected more than in any other field of medicine. In fact, until recently, and even now by some physicians, the patient is told to exercise in the open air as much as possible. This advice alone has sent many an unfortunate victim to an untimely grave. The surgeon has taught us a valuable lesson in this respect. He soon recognized that in acute and chronic inflammations of the soft tissues, injuries to the bones and joints and in most surgical diseases the object of treatment is to bring about rest of the injured parts. He recognized the importance of rest

as a therapeutic agent, and today he relies on rest, after his operation, to heal the wound he has made. Physicians, on the other hand, have been slow to appreciate what rest can accomplish in preventing and curing disease. It was in 1874 that Weir Mitchell began to develop his rest treatment for neurasthenia and hysteria, and through this influence absolute rest in bed was first given a recognized place in medical therapeutics. In acute fevers from whatever cause, in chronic diseases of the heart and kidneys, and lately in chronic diseases of the gastro-intestinal tract, rest in bed is an important factor in the treatment. Yet, while it is just as important in the treatment of chronic lung affections, it has been almost entirely neglected. If it were possible in the treatment of pulmonary tuberculosis, the lungs should be given absolute rest. This is impossible, and the nearest we can approach it is by giving rest to the body as a whole. Rest in the recumbent position is the one method we have of accomplishing the best results in this direction, and every tubercular patient should be placed in this position and kept there, certainly until the acute symptoms have subsided. An improvement in the condition of the patient will soon be noted when treated in this manner. Rest in bed lowers temperature, slows pulse and respiration, decreases cough and expectoration, improves appetite, aids digestion and assimilation, and in most cases increases the weight. Anything producing such favorable results should be used in every case, for when neglected the patient cannot improve as he should. Rest should be prescribed as carefully as a dose of medicine and in amounts to suit the individual case.

The symptoms of tuberculosis are produced by absorption of toxins rather than by destruction of tissue. More toxin will be absorbed when the breathing is deep and rapid than when it is shallow and slow. The poison on entering the blood brings about a fall in the protective elements. If this is frequently introduced and in amounts too great the protective factors may become so reduced that bacteria may gain new footholds and begin other foci from which toxins may be absorbed.

Having kept the patient quiet until his symptoms have practically subsided, he may be given exercise. This, too, should be very carefully prescribed, and at first the patient should have only a few minutes of it. This can be gradually increased about once a week, provided it does not produce any untoward effects. The patient should be given exercise of such a nature, and it should be increased with the idea of fitting him to return to work without danger—that is, the exercise taken at the time the patient returns to work should be of a kind and in amount sufficient to assure him that he can return to the work he has in mind without bad results. No patient should take exercise when the temperature is above 99.6 or pulse above 90. When one loses appetite after beginning exercise, it is a fair indication that he is taking too much, even if pulse and temperature are normal.

Feeding of the Tubercular Patient.—The kind and amount of food given depends much upon the condition of the patient. If his weight is below normal an effort should be made to bring it to or a little above normal. The digestive system should be studied carefully and gotten in the best condition possible, so that it will handle the food. If the appetite is poor it may be improved by tonics and rest. Three solid meals a day, supplemented by lunches of milk and eggs, are advised for patients below normal in weight. I prefer to depend on three solid meals when the patient cannot take and digest both meals and lunches. To take a great amount of food and not be able to digest it does not good, but harm. The old idea of stuffing a patient until he is either dead or has gained a great deal over his normal weight is unscientific. Most of us know from experience that the resistance to disease of such fat people is, as a rule, below par. This is as true in tuberculosis as in other diseases.

The more a patient eats above what he can handle conveniently the greater will be the tax on his digestive system. Instead of making a patient eat as much as he possibly can it would be better to make him eat as little as possible to gain. A gain of one pound a week is better than to gain three or four, only to impair the digestive system in a few weeks and thus destroy one of the most important factors in the chance for the patient's recovery. The food should be well cooked and served in an appetizing manner. No fast rules should be used in feeding. What one patient eats and digests easily

may not be at all suited for the other. The physician and nurse should individualize in each case and give the kind and amount of food that is best suited.

Fresh Air—There was a time when physicians relied almost entirely on fresh air to cure tuberculosis. As soon as a diagnosis was made the patient was sent west without any instruction, but simply told to rough it in the open air. A great many came to grief, for the life they led was entirely too strenuous. Today we know that fresh air is valuable in the treatment of tuberculosis, but we also know that with that alone we cannot expect a cure. It will have to be admitted that some climates are better for certain cases than others. Any climate associated with the other agents we have for the treatment of tuberculosis is far better than the best climate without them.

Patients should be placed in a well ventilated and lighted room, or, better still, in the open. A very satisfactory way to treat patients in the home is to have them sleep on a porch adjoining a warm room where they can dress. A patient can be made comfortable in the open in the coldest weather, provided they have a warm dressing room convenient. They can sleep much better in the open than on the inside, and, contrary to a very prevalent opinion, are decidedly freer from colds. Physicians are curing 75% of the incipient cases in the tenement districts of New York and Chicago. Why, then, should it be necessary to send your patient a distance from home seeking the climate that will cause the disease to vanish as if by magic? This ideal climate for the cure of tuberculosis has never been found, and the patient who relies on that alone for a cure is like the foolish boy who chases the end of the rainbow hoping to find bags of gold.

Drugs.—There is no known drug which has a specific effect on a tubercular process, although about every one in the materia medica has been tried at one time or another. As a general rule the less medicine one gives the better will be the results. Entirely too many cough medicines are given, many of them doing decided harm. It should be remembered that the cough is Nature's way of draining the diseased area, and unless excessive is of benefit to the patient. If it disturbs the rest something may be given to lessen it. Some expectorant mixture may be given if the cough is tight. In the advanced case where the cough is excessive and weakening to the patient opiates in small doses may be given, as they quiet the patient and permit rest that would otherwise be impossible. Aspirin in small doses sometimes does good to relieve a cough. If we do nothing for it the reason will have to be explained to the patient, as most of them think a decrease of cough is a sure sign of improvement.

Complications often arise in tuberculosis calling for drugs. In such cases they can be given to advantage. Particular attention should be paid to the stomach, for the success of treatment depends much upon the ability of the patient to properly digest the food he takes. If the appetite is poor we may give some bitter tonic to advantage. Sodium bicarbonate may be given where there is hyperacidity. Always keep the bowels in good condition, see that they act well at least once a day, particularly if superalimentation is practiced. Small doses of calomel act well. Salts or castor oil may be given with good results. The temperature can be reduced by absolute rest in bed or cold sponges. Sometimes it is due to so-called "biliousness." When this is the case a small dose of calomel gives excellent results. The incipient case rarely calls for drugs.

Tuberculin.—Tuberculin is one of our most valuable therapeutic agents in the treatment of tuberculosis. It seems to have a direct effect on the tubercular process. It should never be given except by one experienced in adminstering it, for it is a dangerous remedy in the hands of the inexperienced. It has fallen into disrepute with some physicians, not because this was merited, but because it had been improperly administered. It is being used in nearly all tubercular sanatoria with good results. It has been proven that those who have improved sufficiently under its use to return to work hold up better than those relying on other methods of treatment.

If the scourge of tuberculosis is ever to be eliminated from the human race the physician must make a closer study of it in order to recognize it in the curable stage and before the patient has had a chance to spread infection. The responsibility of the campaign against the Great White Plague rests, to a great extent, with the medical

profession. Let each physician rise to the occasion and give more time and study to this our most common disease.

DIFFERENTIAL DIAGNOSIS OF UNCONSCIOUS CONDITIONS.

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(Read before State Medical Association, May, 1913.)

A man of advanced age was picked up off the streets in a city by the police and carried to a hospital in an unconscious condition. He was dressed in his working clothes. You could smell alcohol on his breath. This occurred in the month of August. You would naturally first think of a plain drunk or sun-stroke, or a probable injury, but one should withhold his opinion until he can make a complete examination—wait 24 hours. There were no visible signs of injury to the skull. On close examination he presented the following very interesting symptoms: His face was injected, pupils dilated, unequal and inactive, there was deep unconsciousness. The patient could not be roused, respiration slow, noisy and accompanied with stertor, cheeks *blown out* during expiration, with spluttering of the lips, pulse full, slow and of increased tension. Temperature abnormal. I found that he had passed his urine and feces involuntarily. In lifting the arm and leg on the right side I found that they had dropped *"dead,"* while on the left side they fell more slowly. In watching him breathe I found that the cheek on the right side was *blown out* in a more marked manner than on the left side. I also noticed that he held his head and turned his eyes toward the left. It looks like we undoubtedly have a cerebral lesion to deal with, but is it a case of cerebral hemorrhage, thrombosis or embolism?

This I will try to reason out as follows: My patient was a man. Apoplexy is more common in men than women. He was out on the streets and exerting himself, it was hot weather, and he had had a drink of whiskey, all of which would raise his blood pressure and invite cerebral hemorrhage. Cerebral hemorrhage means a weak vessel and high blood pressure. Hence, onset during activity or excitement, mental or physical, a high tension pulse below 90, and generalized arterio-sclerosis indicate hemorrhage.

If to these items are added advanced age, vomiting, profound coma, irregular or Cheyne-Stokes respiration, albuminuria; the diagnosis or hemorrhage is practically assured. Its situation and extent are matters of localization. In this case it was probably ventricular, left side, for he died without gaining consciousness, but I must give some more reasons why it was not thrombosis or embolism. Cerebral thrombosis, on the contrary, means a diseased, thickened, not necessarily weak vessel, and low blood pressure.

If I had a history of gradual onset, with headache, vertigo, tingling in the fingers, speech embarrassed for some days, with loss of memory, or incoherence, with the paralysis beginning at one part, as the hands and extending slowly, and the hemiplegia incomplete or variable, consciousness retained, or slight unconsciousness, attack coming on during sleep, pupillary disturbances not marked, no optic neuritis, a low tension pulse above 90, breathing quiet, face not flushed, vessels atheromatous, in a patient under 50, and evidence of syphilis or other infection, then I would say, I was dealing with a thrombosis, but how different the clinical history. On the other hand, if any patient had been a woman, during or directly after labor, or a young adult of either sex, who had a well developed cardiac bruit, with a history of rheumatism, sepsis, chronic valvular disease, or aneurism, coming on suddenly during activity or strain, without pulmonary symptoms, excited, irregular pulse, temperature normal or but slightly disturbed, attack may be short or long, and absence of prolonged unconsciousness or coma, then I would say I was dealing with a case of embolism.

But what else could my man be suffering from? I will name and differentiate the most likely: (1) uremia, (2) diabetes, (3) alcoholism, (4) opium poisoning, (5) epilepsy, (6) an injury to the skull or fracture at the base of the skull, (7) sunstroke, (8) heat exhaustion, (9) hysteria, although you would hardly find it so pronounced in a man), (10) gas poisoning, (11) syncope, (12) and carbolic acid poisoning. Other causes, such as catalepsy, any of the acute infectious diseases or fever, such as typhoid, typhus, and pernicious malaria, septicemia, pyemia, carcinomatous growths, acute yellow atrophy of the liver, chloral, ether, chloroform or nitrous-oxide gas and coal gas poisoning, concussion or laceration of the brain, cerebral meningitis, meningeal hemorrhage or tumor, abscess or tumor of the brain, acute encephalitis, cerebral sy-

philis, general paresis, or multiple sclerosis, may cause coma, but these are rare, and I will only differentiate these named above.

Uremia—You will most likely get a history of convulsions, the face will present the swollen pallor of renal disease, the pulse is generally infrequent, and is apt to be of high tension, the pupils are equal, either dilated or of normal size, the breath and body exhalations may have a urinous or ammoniacal odor, there is a persistent sub-normal temperature, you will most likely find albumin and casts in the urine, and hard arteries and a hypertrophied heart, the eye grounds will show a retinitis, the feet and ankles will most likely be swollen, finally you may have a uremic hemiplegia which you cannot differentiate except at autopsy.

Diabetes—You may find a history of syncope and drowsiness or vomiting, headache, delirium and dyspnea, or it may come on without premonition, the sweetish fruit or "over-ripe" apple odor of the breath is characteristic. The drink of whiskey my patient had would spoil that symptom, but the finding of sugar in the urine would make the diagnosis clear. My patient had one symptom of a drunk—you could smell whiskey on his breath, but that was not conclusive. If in trying to arouse him he protested by words and blows, and you get the peculiar sour, mawkish smell—the odor of "drunkards' stomach," you may be reasonably sure that it is only a drunk, but you may have a cerebral hemorrhage as well as the drunk, then, to find the paralysis is the only thing that will clear up the diagnosis. The face is usually flushed, often somewhat cyanotic, more rarely pallid, respirations are of normal frequency, deep and sometimes stertorous, pulse rather rapid, full and strong, finally becoming small and feeble, pupils equal and either of normal size or dilated, skin cool and moist, temperature sub-normal, convulsions are infrequent, but there may be some local muscular spasm or twitching. Age will not help you out in the case, for all ages get drunk!

Opium Poisoning—The patient is deeply comatose, face dusky and cyanotic, respirations slow (12 to 14 even less per minute), pulse infrequent and full, until the terminal stage, pupils equal and contracted to pin points. One point I want to bring out here is this. Suppose, instead of the patient getting laudanum or morphine, he gets a combination tablet containing morphine and atropine, then you will not have contracted pupils and slow respiration, for as you well know, atropine stimulates respiration and dilates the pupil, temperature of the body normal or sub-normal and except toward the end the skin is dry and moderately warm. This could not be mistaken for Jacksonian epilepsy for they do not reach the unconscious stage in that form. In petit mal and grand mal you would get the history of a convulsion followed by unconsciousness, and this with the bitten tongue, the foam on the lips, and, above all, the brief duration of the gradual unconsciousness, are in the majority of cases sufficient to settle the question. My man would have been conscious before the police got him to the hospital, had it been epilepsy. The face is congested, the breathing stertorous, the limbs relaxed but there is no hemiplegia, the temperature is never below normal. As no injury to the scalp or skull could be found in this case, you can rule that out. You might, however, have a fracture of the inner table of the skull, a fracture by contre-coup, or a fracture at the base of the skull. Remember this, that a man may be stricken with apoplexy while he is drunk, and may fracture his skull by falling when under the influence of opium or alcohol. So you may have two or three indications in the same patient. You may wait for several hours before you are able to make a correct diagnosis. Regard a doubtful case as serious until the truth is clear. In great or sudden brain compression complete coma exists without voluntary movement. The skin is hot and prespiring, the respirations are slow and stertorous, and the cheeks flap during expiration, the pulse is slow and full and may be irregular, the pupils are somewhat dilated and do not respond readily to light. If the compression is affecting the base of the brain and is unilateral, the pupil on the affected side is apt to be most dilated. There is usually retention of urine and incontinence of feces. You may have monoplegia, hemiplegia, or the paralysis may be general. In hemorrhage into the interior of the brain, the unconsciousness is immediate or nearly so. In bleeding from the middle meningeal

artery, a period of consciousness intervenes between the injury and the coma, in which period blood collects and the coma comes on gradually. In compression from depressed fracture, as from a foreign body, the symptoms usually come on at once, but they may be deferred for some hours. Compression from inflammation or pus begins gradually after a considerable time has elapsed. Always remember, that hemorrhage into the pons will produce pin-point pupils, but it also causes paralysis (crossed paralysis if in the lower half of the pons) and high temperature with sweating. In opium poisoning the skin is moist and temperature sub-normal.

Sunstroke—The patient may be struck down and die within a hour with symptoms of heart failure, dyspnea and coma. The patients are usually admitted to the hospital in an unconscious state, with the face flushed, the skin pungent, the pulse rapid and full and the temperature ranging from 107° to 110° or even higher. The breathing is labored and deep, sometimes stertorous. Usually there is complete relaxation of the muscles, but twitchings, or very rarely, convulsions may occur. The pupils may at first be dilated, later contracted. Prolonged exposure to high temperature, particularly when combined with physical exertion, is liable to be followed by extreme prostration, collapse, restlessness and in severe cases by delirium. This we term heat exhaustion. The surface is usually cool, the pulse small and rapid, and the temperature may be sub-normal—as low as 95° or 96°. The skin is moist, pale and cool, breathing easy, though hurried, pulse small and soft, the vital forces fall into a temporary collapse, the senses remain entire. It is very important to differentiate these two conditions for the treatment is so different.

Hysteria—Is more common in women, but by no means rare in men. There is something characteristic, although difficult to describe, in the appearance of a patient in the coma of hysteria. The attack may be preceded by laughing, crying, delirium, or convulsive movements, or it may come on without premonition. The face is somewhat flushed, the pulse is usually of normal rapidity, the breathing may be rapid, but not stertorous, the pupils are equal, of normal size and responsive to light, the eyelids resist opening, and eyeballs are persistently upturned. You will hardly see a patient in a hysterical fit fall on the street, for they might get hurt! Such patients find a soft spot like a sofa, or easy chair, to fall on, and will select a time when some sympathetic friends are around to take good care of them. Finally an iritant, such as ammonia, to the nostrils, or continued firm pressure upon the supraorbital nerve at the point of emergence, will at least partly arouse the patient. In view of the undoubted fact that serious organic diseases of the brain may be ushered in by pseudo-hysterical symptoms, it is best to be somewhat chary in announcing a positive diagnosis of hysteria, unless there is a total absence of organic symptoms, and the hysterical characteristics of the attack are so marked as to be beyond question.

Gas Poisoning Coma.—The cause is almost invariably obvious from the circumstances under which the patient is found. It results from the inhalation of carbon dioxide (illuminating gas, charcoal fire), or hydrogen sulphide (sewer). It is possible that my man might have been pulled out of a sewer, and his condition due to sewer gas, but a good deal of doubt still exists in the minds of the profession about these cases of so-called sewer gas poioning. Two forms are describable. An acute severe form with nausea, vomiting, colic and fever, followed perhaps by a condition of collapse or coma. Secondly, a form of low fever with or without chills. It is a notorious fact that workers in sewers are remarkably free from disease, and in many of the cases which have been reported, the illness may have been only a coincidence. There are instances in which persons have been taken ill with vomiting, and slight fever, after exposure to the odor of a very offensive post mortem. Whether true or not, the idea is firmly impressed in the minds of the laity, that very powerful odors from decomposing matter, may produce sickness.

Unconsciousness from sudden anemia of the brain (syncope) is rarely confounded with other forms of coma. The pallor of the face is absolute, the respirations are shallow and almost imperceptible, the pulse is weak, perhaps absent, and the pupils are

widely dilated. The eye may remain open. If the syncope is due, as it is in the majority of cases, to a temporary weakness of the heart action, from emotional causes, or the sudden assumption of the erect position, by an enfeebled person, consciousness will soon return, under appropriate treatment. It is to be remembered, however, that if there is pallor, plus cyanosis and some stertor, the attack may be due to serious cardiac disease, or may be one of the slight apoplectic seizures premonitory of a serious cerebral thrombosis.

Carbolic Acid Posioning would produce coma, the pupils would be contracted. The acid produces white patches in the mouth and the odor is characteristic. Six or seven drops have caused the most dangerous symptoms. Death has taken place within ten minutes after swallowing about one ounce of carbolic acid, although life may be protracted two or three days. Sudden death is due to failure of respiration. If death is delayed, symptoms of violent gastro-enteritis ensue. The symptoms of poisoning are vertigo and intoxication, accompanied with vomiting of frothy mucous, and an intense burning pain in the mouth, oesophagus, and stomach. The pupils are contracted and the pulse rapid and intermittent, and coma, collapse or convulsions ensue. The skin is covered with clammy sweat, the features are pinched and anxious, and the pulse becomes very thready and almost imperceptible, the urine is frequently suppressed, but if passed or withdrawn by catheter, is dark colored and smoky. A very common symptom is hoarseness of the voice.

SUMMARY.

The pupils in cerebral hemorrhage are dilated, unequal and inactive. In thrombosis the pupillary disturbances are not marked, nor are they in embolism.

Apoplexy comes on suddenly, and as a rule, during exercise, and under high blood pressure. It is more common in men, and in advanced age and we have profound coma. Thrombosis comes on gradually, very often during sleep, and has premonitory symptoms. Age, under 50, and very often with a syphilitic history. The patient not acutely unconscious. Embolism comes on suddenly, without any warning, during activity or strain, at any age and time, in either sex, more common in women after confinement; absence of prolonged unconsciousness or coma. Look for a cardiac lesion or aneurism. It is important to differentiate these conditions for the treatment is so different. In uremia the eye grounds will show a retinitis; look for pallor and swollen feet and ankles, high tension pulse, with hard arteries and hypertrophied heart, albumen and casts in the urine. Urinous or ammoniacal odor about the body. In diabetes, the sweetish, fruitish, or overripe apple odor of the breath, is characteristic; look for scars from boils and carbuncles, and for sugar in the urine.

Do not make a diagnosis of a plain drunk until the patient is sober. Opium poisoning will present pin-point pupils and slow respiration, unless the patient has taken atropine, with it. Temperature sub-normal, skin moist. Hemorrhage into the pons will produce pin-point pupils, but we have paralysis with high temperature and sweating.

In epilepsy look for a bitten tongue, and foam on the mouth. In compression of the brain from fracture, the pupils are somewhat dilated, and do not respond readily to light.

If the compression is affecting the base of the brain, and is unilateral, the pupil on the affected side is apt to be much dilated.

In sunstroke the face is flushed, skin hot, pulse rapid, temperature high. In heat exhaustion, you have the opposite picture, skin cool, pulse small and rapid, and temperature sub-normal. It is important to make a correct differential diagnosis, for the treatment is so different. In hysteria the pupils are equal, of normal size, and respond readily to light, eyelids open, and eye balls persistently upturned. A little ammonia to the nostrils, or pressure on the supraorbital nerve, will clear up the diagnosis.

You can diagnose gas poisoning from conditions in which you find your patient. In syncope, the pallor of the face, shallow respirations, weak pulse and widely dilated pupils make the diagnosis clear, pallor, plus cyanosis and stertor, may mean serious cardiac disease of thrombois. In carbolic acid poisoning, you will find contracted pupils, white patches on the mouth, smoky urine, and the odor will be characteristic.

CHRONIC SUPPURATIVE OTITIS MEDIA.

Some Clinical Observations as to Treatment.

H. R. Johnson, M.D., Fairmont, W. Va.

(Read before State Medical Association, May, 1913.)

Within the past twenty years otology has made truly wonderful advances along all lines, but in none has it been more conspicuous than in the treatment of chronic suppurative diseases of the middle ear. The general tendency has been in the direction of radicalism, while many of the more conservative methods have apparently fallen into disuse. In a certain per cent. of cases in order to make treatment thorough and results satisfactory, radical measures should at once have preference.

We all readily admit and recognize the radical treatment of chronic otitis media as one of the truly great advances made in the otological surgery of our day and generation. Nevertheless we feel that it has its limitations. The employment of milder methods are productive of such favorable results as to demand a word in their defense. In these days, when radical surgery holds the center of the stage, it may be well to take stock and see if this represents the true situation as proven by clinical facts.

I am sure that all of you have had cases of chronic middle ear suppuration recover under mild conservative treatment. In the earlier days of the radical mastoid operation, my enthusiasm ran away with me and I was advising it in all cases of chronic suppuration of the middle ear, and as a result I met with some very bitter disappointments.

Why? Because I had not properly selected my cases. This caused me to pause and consider. I then studied my cases more thoroughly, made better selections, and my results have been much more to my liking and have impressed me with the importance of conservatism in cases presenting certain clinical features.

I classify my cases as follows:

(1) Those cases that respond promptly to conservative measures.

(2) Those that obviously from the beginning demand radical treatment.

(1) Clinical indications for conservative treatment. Ocular inspection.

Perforation.—Kopetsky, in his work on surgery of the ear, makes a classification of dangerous and non-dangerous perforations of the drum membrane, which I have found to be a fairly reliable guide in practice.

Thus he considers: All perforations that are marginal or extend quite to the bony annulus, or those situated high within the limits of Shrapnell's membrane, as dangerous and these are the cases attended with bony necrosis and cholesteatoma, demanding radical operation for its removal, while the large perforations situated in the membrana vibrans, centrally located with a good margin of membrane intervening between it and the bony rings, are non-dangerous and are the ones in which conservative treatment may be employed with good results.

Discharge.—I believe that valuable lessons can be learned from careful study of the discharge, which has a very important bearing on the method of treatment to be chosen. The discharge in any case of chroic suppurative otitis media is, almost without exception, fetid.

The fetor in most instances is due to decomposition of the discharge by anaerobic organisms and it is logical that the decomposition is a factor in prolonging the discharge.

Given a case where the discharge is offensive but becomes sweet after two or three irigations, changes its color from yellow or greenish pus to muco-pus. That case is due to a condition limited to the tympanic cavity and Eustachian tube and is one for conservative treatment.

Granulations and Polypoid Formations.—While I have often noted the statement of eminent authorities, that these vegetations occuring in the course of middle ear purulency of the chronic type is evidence of underlying necrosis, I have not found this to be invariably the case. I am convinced that granulation formations may originate from diseased conditions of the tympanic mucosa with no involvement of the bony structures. These granulations, when re-

moved, show no necrosis and do not recur as rapidly as those which have underlying diseased bone. Necrosis of the incus and malleus is not of itself an indication for radical procedure, but satisfactory results may be obtained by ossiculectomy.

Yankauer, in the December number, 1912, of *Annals of Otology, Rhinology and Laryngology,* makes the statement which coincides so closely with my personal observations that I desire to quote him literally. He says—"It is a familiar fact that spontaneous healing of chronic middle ear suppuration occurs in a considerable number of cases. The fact that such cases have been of many years duration, that the mastoid has become sclerosed, that the ossicles may have disappeared, indicates that these cases were not so-called mucous membrane cases, but that the bone was also involved."

Just at this point I wish to briefly outline what I mean by conservative treatment. My application of the word conservatism is intended to include all recognized measures short of the radical operation which experience has taught us may bring satisfactory results.

In cases presenting the conditions above described my usual method of treatment is as follows, viz.:

(1) It is of first importance in all cases to secure adequate drainage. Small or highly situated perforations must be enlarged and lowered.

Not infrequently we find large perforations with insufficient drainage caused by granulations, inspissated pus and cheesy material closing the opening and damming back the pus. These granulations must be removed.

As the Eustachian tube is one of the avenues through which the tympanum is drained, all obstructions to its pharyngeal end should be corrected. This is particularly important in children with adenoid obstruction.

(2) *Cleansing.*—This to be effective must be done thoroughly. It can not be carried out properly in the home or even by the trained nurse, unless, she has been especially trained for the work. It must be done by one skilled in ear manipulations and the treatment of its diseases.

The entrusting of this important feature of the treatment in the hands of incompetents is largely responsible for poor results.

If there are no cheesy or inspissated accumulations present, dry wiping may be employed until the cavity is clean, then an application of alcohol and boric acid, grs. xx to the ounce, instilled into the middle ear, after which the cavity is wiped out and dried with hot air and lightly dusted boric acid. This treatment has been effective in my hands in a number of cases, but if after six or eight such treatments the case does not improve, a solution of silver nitrate (grs. 10 to the ounce) injected into the tympanum with a Blake syringe, increasing the strength of the solution up to twenty grains to the ounce if required, the ear is then dried and boric acid is insufflated. This is repeated every second day.

If there is much cheesy or inspissated material present, it is best to syringe the cavity with a solution of sodium bicarbonate, and if this fails to effectively dislodge all accumulations, I have succeeded in doing so by suction.

I have seen cases respond promptly to this treatment for a time, the ear becoming dry and remaining so for several weeks, when all of the symptoms would recur.

What is the explanation of this phenomenon?

In cases of actual bone necrosis, one can scarcely conceive how it would be possible for the discharge to cease and the ear remain dry for so long a period as the time above mentioned, under such mild methods of treatment.

In my judgment the most satisfactory solution of the problem is that reinfection has taken place, the source of which is to be looked for within the naso-pharynx or Eustachian tube. Acting on these conclusions it would seem rational to remove the ossicles, and curette away the membrane in the tympanic cavity that shows any evidence of disease and close the tympanic end of the Eustachian tube as described by Yankauer.

This operation, I think, marks a distinct advance in the treatment of this class of cases and will result in complete cure in the vast majority of such cases, especially those which are not complicated by extensive bony necrosis, and even in some of these cases Yankauer claims to have effected cures.

One readily understands how, with a

perforated drum and patulous Eustachian tube, reinfection could take place from the nose or naso-pharynx where "the patient (using the words of our friend Yankauer) is constantly blowing his nose through his ear."

The one cardinal feature of the Yankauer operation is to curette the Eustachian tube from the isthmus outward to the tympanic cavity proper, the object of which is to close the tube by granulation and subsequent cicatrization, thus preventing reinfection through the tube from the nose and throat.

In curetting the Eustachian tube from the isthmus outward one very important detail of the technique is, to open into the processus cochleariformis and remove the tendon of the tensor tympani muscle, as this may act as a pocket for the accumulation of pus and thus defeat the object of the operation.

The attic should be cleared of granulations and debris, and if necessary, the outer bony wall of the attic may also be removed.

Yankauer claims that cases without pus retention and with good middle ear drainage, the blocking of the Eustachian tube is not only followed by a cessation of the discharge, but that the granulations which have been heretofore so persistent will shrink and disappear.

I have only performed this operation in two cases of the recurrent type, that is where the discharge had disappeared for a time under the cleansing treatment. In both of my cases the results were all that could be desired. One case has gone nine months and seems to be permanently cured. The other operated March 20th, 1912, has remained perfectly dry up to the present time..

It may be of interest to mention the fact that, both discharged more freely for the first two or three weeks following operation, but after that time all discharge rapidly disappeared as above described. I also observed that hearing was neither improved nor impaired by the operation.

Yankauer, in his recent monograph, says that this operation may have to be repeated one, two or three times before a cure is affected.

In presenting this paper I desire to be clearly understood as making no plea for this operation in all cases of middle ear suppuration, as we frequently meet with cases in which the most radical measures are clearly indicated from the very onset of the trouble, and to delay such measures would add greatly to the gravity of the disease and be altogether disappointing in the end results.

It is simply my object to publish my conviction that the radical operation is resorted to many times when less hazardous procedures would achieve results equal in every respect.

In conclusion I beg to recommend that in all cases in which radical measures are not clearly indicated, conservative treatment be thoroughly and conscienciously tried. Should the results be unsatisfactory, radical measures may be later resorted to without detriment to the patient.

SUBJECT FOR THOUGHT.

Fred W. Barger, M.D., Hiawatha, W. Va.

(Read before Mercer County Society, April 19, 1913.)

It has been, now is, and for a long time will be, prevalent in the minds of the laity that physical ailments can be alleviated and cured by various and sundry drugs and applications, coupled with faith in the family physician administering the same. Education in its true sense should ultimately show the falsity of such a belief. Hygienic practice, thorough education and information about the body, the function and structure of every part of it, would eliminate the demand for a great many drugs that are now being administered.

Prophylaxis intelligently applied should maintain an ideal condition of the human body and prevent the larger per cent of the ills which the present day practitioner is called upon to relieve. Unfortunately the uncontrolled will of man, dissipation, predisposition and bad environment handicap nature in maintaining this ideal state of physical perfection, so that the professional services of the physician become a necessity in our physical economy.

Granting that the above is worthy of serious consideration, are the present day methods as generally practiced by the pro-

fession conducive to the best results attainable? Are our applications of the methods in keeping with our scientific advancement?

Diagnosis by modern methods has been reduced almost to a scientific certainty within the recent past. Diagnostic errors are now almost inexcusable. Chemicals have been so thoroughly analyzed as to leave little uncertainty as to their efficacy when applied as remedial agents. Theories and practices of half a century ago have been so completely exploded as to arouse a sympathetic feeling toward our fraternal ancestry as well as their patients who, through nature's heroic struggle, survive treatment which would now be considered fatal.

The continued experimental compounding and application of remedies have left with us a confusing list of pharmaceutical relics and practices clothed in terms unintelligible to the average sick man that should have been long since discarded.

From the dawn of man's history he has been accompanied by the "medicine man." The theories upon which the knowledge of the curative properties of roots, herbs, etc., is based are various. Primeval man, ignorant of arts, clothed and surrounded by nature, wandered over the earth enjoying its beauties and supplying his bodily wants by whatever was most convenient and attractive. His stomach, and not a reasoning power, disclosed which of the things were beneficial and which were incompatible with his nature; emetics, stimulants, cathartics, hypnotics, etc., were thus discovered and probably were the basis of sinister practices upon less intelligent individuals, as the light of reasoning dawned upon the human family.

Scientific research of modern times has been unrelenting along the lines of human ills, their relief and cure. Untold funds have been donated by philanthropists to encourage research and experimentation along these lines. We have been centuries "on the job," and what is the result? Quinine —one specific for malaria! We do not mean to say that other remedies are not known which have their selective and beneficial action. Salvarsan, the glandular extracts, the approved serums, those substances producing safe and satisfactory analgesia and anaesthesia, antiseptics and the effects resultant from the application of thermo- and hydro-therapeutics are now indispensable to our present system of physical economy.

We have been drifting upon the shoals of dissension with human bodies as the subject of contention, Allopathy, Homeopathy, Osteopathy, etc., each with characteristic commendations, but does any, or even all combined, meet the grave conditions as squarely and conscientiously as they should?

As we view it we have unconsciously, in our experience with them, lost faith in drugs and are drifting into the domain of surgery with the hope of relieving the ailments of the human family which drugs have failed to relieve.

Fashion dictates that the vermiform be now worn as an external decoration at the end of a chatelaine. The more reckless biped abuses his organs with impunity, since from the shambles he can have those of the quadruped substituted by the grafting process. Will this "quasi-biped-quadruped" find completeness in his escape from materia medica into the enthusiastic arms of surgery?

Surgery, as too often applied, is a misnomer. Operation upon a patient for an abnormality does not in every case end with satisfactory results to either patient or surgeon. Many cases present themselves manifesting a symptom-complex misleading and which too often results in the patient being either incorrectly assigned to the surgical domain or subjected to operation for an end result without the surgeon having apprehended the primary abnormality. Surgery, once the champion of the mangled body, now opens wide its doors that the malformed creatures may walk in and have their defects corrected, and we may expect in the near future that bodily scars of physical regeneration may be demanded as indices to the best society.

After all, where are we today in the science of medicine and the results of its application upon the human family? Physical ailments can be classified as real and imaginary, the real too often being attributable to avoidable predisposition and environment. Permitted over-confidence by the laity in our mysterious "cure alls" contributes to their delinquency and augments injury to the individual and posterity. Did we religiously open their intellect to the true processes of health pursuit and health retention the trend of evolution would be reversed.

There are ominous indications on the horizon that foreshadow the final resort to nature's own remedies to form and preserve the human body in the likeness of its Creator. Have our methods not produced too many neurasthenics who in desperation resort to Christian science, the Immanuel movement and kindred processes, thereby exemplifying, in a feeble manner, the unconscious power of nature to correctly adjust itself?

We should disabuse the minds of the laity of their superstitious regard for the mysteries; place ideality above materiality; use the period of invalidism and convalescence of every patient as a season of education for the sane treatment of diseases, their prevention and correction by nature's remedies and thoroughly disillusionize him of his too often fatal confidence in the efficacy of drugs; teach him to forego the psychological dose, which can only handicap readjustment by natural processes.

When we shall have substituted the above principles for our commercialized practices we will see the phlegmatism, despondency and cowardice of the present day dethroned and in their stead enthusiastic, courageous, Spartan physiques, overflowing with the fullness of health, chaperoned, tutored and encouraged by a professional class of men who have elevated themselves in the degree that the human mind and body have been redeemed from their diverted descendency.

The hygienic dispensation of Moses was an application of the natural elements to redeem the physical body from a destructive tendency. Departure from it proved disastrous and retrogressive.

The vegetable and mineral resources of our commonwealth have been so flagrantly perverted by our people as to forcibly impress us with the grave necessity for conservation. Financial and commercial reforms are being instituted as remedial corrections. Does not the human race show greater marks of dissipation and abuse, and does it not cry aloud for conservation? For the former we formulate laws, but you cannot force righteousness and purity upon a people by statute. You must do it by teaching.

Hygienic Suggestions—Take a cold sponge bath every morning on rising and rub well with a coarse towel. This stimulates the nervous system and keeps the skin in an active condition. Get in nine hours rest every night and be as regular in complying with this habit as possible—say go to bed at 10:30 P. M. and arise at 7 A. M. Drink freely of fresh water (no ice water), especially on going to bed and rising. Use tooth brush night and morning, as clean teeth relieve the digestive organs of an extra task. Take a moderate amount of exercise in the open fresh air and sun light, though avoid the mid-day heat of the hot months, which is depressing. A system of calisthenics or gymnastics is of great value in developing the body and maintaining the same in a healthy state. Deep breathing exercises in the fresh air practiced three times daily maintain healthy lung tissue and return diseased lung tissue to a normal condition. Allow all of the fresh air possible in the bed room, even if you do have to resort to an extra amount of bed covering in the cooler seasons. Keep in mind to have a daily bowel movement, and this, too, without the aid of a purgative if possible, for the above mentioned is a harmful remedy. Do not take alcoholics nor use tobacco to excess. Do not inhale tobacco in any form; in fact, totally avoid cigarettes.

Diet—Oat meal and cream. Raw, poached or soft-boiled eggs, rice, cream of wheat, baked, creamed or mashed Irish potatoes, moderate amount of stewed fruits, beefsteak and gravy, chicken and broth, animal and vegetable soup (strained), any kind of bread, though it is very important that this be baked well. Toasted light bread is possibly best. Spoon corn bread (egg bread), *an abundance of fresh rich milk*, fresh buttermilk.

The above named articles of diet should be adhered to in the main. Also chew all food well before swallowing.

A CASE OF CEREBRO-SPINAL MENINGITIS.

Meningococcus Recovered from the Blood But Not from the Fluid.

S. L. Cherry, M.D., Pathologist St. Mary's Hospital, Clarksburg, W. Va.

The following is a case from the service of Dr. J. E. Wilson, who also made the X-ray examination. Dr. Halterman performed

the lumbar punctures and injected the anti-meningitis serum.

Patient C. C. Age 34. Mechanic. Admitted to hospital June 30th. He had been sick for the previous three weeks, and because he had chills, sweats and an intermittent fever his physician had treated him with quinine, but with no results.

Observation in the hospital revealed very little aside from these three symptoms. The patient had a chill, fever and sweat every afternoon, and in the interim felt quite comfortable aside from a continual feeling of chilliness. There was slight headache at times and marked pain in both feet. On physical examination there was found a diffuse macular eruption covering the entire body, except the palms of the hands and soles of the feet. It faded on pressure. The spleen was palpable. Nothing else was found abnormal.

Urine was negative. Blood showed a marked leucocytosis with a high polynuclear count, and Widal and Wassermann tests negative. On account of the eruption, the leucocytosis and the hectic temperature a provisional diagnosis of sepsis was given and a blood culture made. The results of this were not completed until the 14th of July. The organism isolated was a gram negative diplococcus having all the characteristics of the meningococcus, and was culturally differentiated from the gonococcus and other members of this group. At the same time an X-ray examination of both feet by Dr. Wilson showed nothing abnormal.

On the 14th the patient began to complain bitterly of headache and pain in the back of the neck. Temperature was 103, the eyes were red and suffused and there was marked rigidity of the neck. Dr. Halterman performed a lumbar puncture and withdrew a purulent fluid. Examination of this showed marked polynuclear leucocytosis and a positive Noguchi butyric acid test. Reducing substance was present.

During the next three days Dr. Halterman performed three lumbar punctures and gave two injections of anti-meningitis serum. The patient improved promptly. After the first injection the headache and rigidity of the neck disappeared and after the second the fluid became entirely clear. Since then the patient has been gradually improving in strength, having no symptoms but afternoon temperature. This has been gradually subsiding, and at the present writing (August 15) he is free from fever. This case presents the following points of interest:

1. The absence of cerebral symptoms during the first six weeks of the disease and their rapid disappearance after lumbar puncture and the injection of anti-meningitis serum.

2. The typical hectic fever throughout the disease, accompanied with chills and sweats.

3. The presence of meningococci in the circulating blood and not in the spinal fluid at the time of the examination.

4. The rapid clearing of the fluid after two injections of serum.

5. The persistence of reducing substance in the fluid, since this disappears in most cases of the epidemic form of meningitis.

Blood counts made during the course of the disease:

Date	W.B.C.	Pn.%	S.M.%	L.M.%	Tr.%	Eosin%
6-30-'13	18000	86	8.8	0.4	4.8	
7- 1-'13	18000	86	10.0	0.4	4.3	0.2
7- 3-'13	17400	88.3	7.4	0.7	3.6	
7-21-'13	15000	83	10.3	1.0	4.7	1.0

Selections.

PNEUMONIA.

Analysis of One Hundred Consecutive Cases.

Under 20 years there were 22 cases and no deaths. Under 40 there were 67 cases, with 8 deaths; average mortality, 11.94 per cent. After 40 the mortality rose rapidly. The mortality was identical in the two sexes. The influence of occupation on the attack-rate and the mortality is not noteworthy. There was a definite history of alcoholic excess in 17 cases—all males—of whom 4 died, 3 of these being over 40 years of age. In 18 cases there was a history of previous attacks, varying in time from 30 years to three months before admission. Of these only two died. One patient who had had two previous attacks recovered. Only six patients attributed their attack to a wetting. Twelve patients had a definite history of tubercle, and of these only one died. The absence of a history of influenza is

noteworthy. Forty-seven patients gave a history of one severe, prolonged rigor. One patient had two rigors. One patient had three rigors. One patient had several rigors. One patient had "shivered for six hours." One patient had "shivered for three days." Forty-eight cases gave no history of rigor. Early prostration was marked in nearly every case. Only two patients remained at work after the initial rigor.

Most patients presented a typical pneumonic syndrome, but five patients were admitted as "abdominals"—namely, three as "colic;" one as enteric fever; one as subphrenic abscess. All these patients recovered. Seventeen had albuminuria in considerable amount: of these six died—mortality, 35.3 per cent. Seven had valvular disease of the heart; of these only one died—mortality, 14.3 per cent. Three had marked delirium; all died. One had practically no symptoms. The most noteworthy feature was the high mortality in cases in which the maximum temperature ranged from 101 to 102 F. The analysis emphasizes the deadliness of double pneumonia. It shows a heavier mortality in right than in left pneumonias. No case of abscess of the lung was recorded. One patient developed aortic reflex during the attack. No clear case of malignant endocarditis occurred in the series, though its presence was more than once suspected. No patient, not previously tuberculous, developed phthisis as the result of his illness. Pleurisy was only noted as a complication where it was a prominent feature. No case of meningitis occurred. A termination by lysis was recorded in 34 per cent of cases. The pneumococcus was found to be practically constant in the sputum. The attack-rate was much higher in the months of November to May than in the months of May to November. The mortality shows some curious fluctuations in the monthly average, but is, on the whole, higher in the months of greater prevalence of the disease. In six years out of fifteen the mortality was nil, while in seven years it was over 30 per cent. The general mortality was 20 per cent, or, omitting two cases which were moribund on admission, 18 per cent.

Lindsay treats pneumonia as an acute general infection, with special impact on the lungs, inducing a very intense type of toxemia and involving special danger from the side of the heart. Everything that tends to conserve the patient's strength and remove sources of irritation receives attention. Only milk is allowed—three pints in the 24 hours—any excess of nourishment being regarded as likely to remain unabsorbed, and to distend the stomach and embarrass the heart. A light warm poultice, frequently renewed, is applied to the chest, care being taken not to embarrass the respiratory movements, and after the third or fourth day this is replaced by a jacket of cotton-wool. In the hope of diminishing the toxemia the skin, bowels and kidneys are gently stimulated, all remedies which might tend to depress the heart being avoided. If the patient is in great pain or very restless a hypodermic of morphin or a few grains of Dover's powder are administered. In the presence of any signs of circulatory weakness strychnin is given hypodermically, and ammonia and digitalis and sometimes caffein by the mouth. Alcohol is used sparingly, and only in the more serious cases and in moderate or small quantity. Of the 100 cases only thirty-nine received any alcohol. Brandy was the usual stimulant, and the amount seldom exceeded 3 or 4 ounces. In the presence of unusual dyspnea or cyanosis, oxygen was administered, the gas being passed through alcohol Tepid sponging was vigorously practiced in every case, and cold sponging when the indications seemed to point to its use. Anti-pyretics or expectorant drugs were not administered. Bleeding was not employed in any of this series of cases. The various complications, when they arise, were treated on the usual lines.—J. A. LINDSAY *in British Medical Journal.*

IS STERILIZATION DESTINED TO BE A SOCIAL MENACE?

G. Frank Lydston, M.D., Chicago, Ill.

It is hardly necessary to state that I am thoroughly in sympathy with the employment of sterilization in social therapeutics. I was one of the pioneers in promulgating the theory and practice of sterilization of the socially unfit, and have had no occasion to change my views as to its value. It is a truism, however, that any therapeutic resource which is beneficially potent is also capable of harm. This is quite as true of

social therapeutics as in the ordinary kind. It is the purpose of this brief paper to discuss some of the possible evils of sterilization.

Sterilization a Possible Menace to the State.—The laity is already becoming familiar with the technique, safety and effects of sterilization upon the sexual function, and is aware that infertility, not impotency, results from it. The consequence is that, more often than the profession at large is aware, laymen are appealing to the surgeon for sterilization as a means of evading the responsibility of the procreation of children. That the surgeon will in future be still oftener appealed to is inevitable. The assumption of the responsibility of procreating and rearing children demands a certain degree of self-abnegation and self-sacrifice which many of both sexes gladly avoid. The fact that sterilization in either sex does not impair sexual power is likely to appeal very strongly to the average man.

The desire to avoid the physiological results of the sexual act is necessarily stronger out of wedlock than within it. Not only will sterilization appeal to the male sex, but also to the female, perhaps in some instances more strongly, because of the fact that the burden of responsibility and care of bearing and rearing children falls most heavily on the female. Especially will it appeal to the female because she herself need not submit to the knife in order to accomplish the desired result.

The Economic Phase of Sterilization.—The foregoing considerations are inextricably commingled with economic conditions. The increased cost of living, which means increased obstacles to matrimony, bears particularly on the expense of rearing a family. Economic conditions are likely to grow worse instead of better. The proportion of marriages will necessarily decrease. Sterilization obviously is an answer to some of the problems which confront society in reference to the expense incidental to rearing a family.

A very important phase of the economic problem that confronts people of marriageable age is necessarily the probability of children. Under present conditions the average wage earner is compelled to remain a celibate on account of the disproportion between wages and the amount necessary to maintain a family. It is possible that sterilization may increase the proportion of marriages among wage earners.

The Moral Aspect of Sterilization.—While it may be an open question whether sterilization will increase the proportion of marriages, there can hardly be any doubt as to its demoralizing effect, according to present ethical and moral standards of sex relations. Under present conditions a rapidly increasing class of wage earners is commanded by society to remain sex neuters. This is especially true of the female wage earner.

The sex function alone of all the functions of the body is commanded by ethical considerations and moral law to remain dormant. As a matter of fact, however, it does not and will not remain dormant.

Society has not yet arrived at the stage of development which would enable it to openly face this issue. Society merely shuts its eyes and goes on mouthing impractical and hypocritic ethical and moral inhibitions of biological law.

If the practice of sterilization ever becomes at all general society eventually may be compelled to admit that inhibition of sexual immorality has depended more upon the danger of paying the physiological penalty, especially on the part of the female, than upon any moral or ethical influence *per se*. Remove the danger of pregnancy and we take the lid off.

Sterilization as a Substitute for the Abortionist.—However much the fact may be deplored; however strenuously we may legislate and preach against abortion, the practitioner of this illegal operation is, under present moral and economic conditions, a popular and unavoidable social institution.

The substitution of the term "curettement" for the term "criminal abortion" has merely served to conceal the fire and to make the custom more wide-spread among supposedly decent physicians. Sterilization may prove to be a social factor which will greatly limit the practice of abortion.

Sterilization and the Church.—The church, which has always exercised a supervision over the right of the human being to procreate or not to procreate, will soon, in my opinion, have a very important problem on its hands, and will have to join with the State in the endeavor to regulate the practice of sterilization.

Whatever religious views one may hold

upon the subject, and whatever social theories one may entertain, it must be admitted that the individual right to determine whether or not he or she shall have children and when, and how many shall be procreated, is at least an open question.

The large family is an ideal proposition in the abstract, but in the concrete, in the light of present economic conditions, there are those who believe that not to be born at all is better than a life of misery and degradation, and that a few children, properly reared, should be the ideal of the family rather than a large number of children who can by no possibility be brought up as healthy and useful citizens. That woman should be sacrificed, as she often is, to the "Rooseveltian" idea of a large family has never been quite so clear to me as it seems to be to some.

Church and State unite in condemning all methods of prevention of conception. Will not both, if consistent, be compelled to "sit up and take notice" when sterilization of "the fit" becomes popularized?

Relation of Sterilization to Illegitimacy.—Should sterilization supplant the abortionist as a social institution, it will be a saving factor for certain of the unborn.

Society's attitude toward the abortionist is about as inconsistent as any social folly that could be mentioned. The woman who bears an illegitimate child becomes a social pariah. She is downtrodden by man and despised of woman. Her child is branded as a bastard before it is born, and again branded directly afterward. The State practically does nothing to save the life of the illegitimate child or to preserve its health and morality and develop it into a useful citizen.

If the bastard child were the arbiter of its own destiny it never would be born.

A demand for the abortionist is created by society itself, and then society penalizes the operation of abortion, rubbing its hands in hypocritic and savage glee whenever a poor starveling who is caught in the act is convicted and sent to the penitentiary as a sop to the Cerberus of ethics and morality. The fact that where an abortionist is punished thousands go unscathed does not weigh in the balance.

Individual Rights versus State Rights.—I will concede, for the sake of argument, the right in general of the individual, male or female, to be sterilized, especially in view of the fact that in the case of the male sterilization need be only temporary.

I will concede, also, that sterilization is a valuable therapeutic resource in certain diseases and a valuable preventive of the transmission of disease and degeneracy to the unborn.

I will further concede that under proper regulation it will be of immense advantage to the State.

I nevertheless hold the opinion that the laws to protect society against the criminal and other unfit classes *by* sterilization must soon logically be followed by laws to protect society *against* sterilization, said laws being in the way of regulation of the operation on "the fit."

As to where the individual right to be sterilized ends and the State's right to prohibit sterilization begins, that is a subject which will require very careful study, wide experience and considerable time for its elucidation.

The regulation by the State of the surgeon's practice of sterilizing the unfit is a corollary of the foregoing, and probably will be the most practicable way of handling the problem by the State.

The foregoing possibly will be considered by some as a prophecy by a social alarmist. I believe, however, that what I have said comprehends merely the logical results that may be expected to accrue from the inevitable familiarity of the public with sterilization and its results. Possibly it may come with better grace from myself, who always have been a strenuous advocate of sterilization as a factor in social therapeutics, than from others who have not been quite so friendly to this particular method of social self-defense.—*Critic and Guide.*

ALCOHOL AND DEGENERACY.

The important question of alcohol and degeneracy was discussed by the Forensic Medicine Section of the last International Congress of Medicine. Professor Harvey Littlejohn presided.

Dr. Benno Laquer of Wiesbaden "reported." He said England was the oldest country, except the United States, engaged in battling alcoholism and its degenerative effects on the human race, as well as in research as to its origin. He critically sur-

veyed recent literature on the subject and distinguished between acute and chronic poisoning of the germ plasm. Especially he remarked upon the connecting links with eugenics as expressed in the views of Forel, Francis Galton and Karl Pearson. Lundborg, the Swedish neurologist, had traced the alcoholic origin of the degeneracy of a rural community of 2,800 people, and Professor Bunke (Freiburg) had written an important treatise on "nervous degeneration." He touched on the controversy between Sir Victor Horsley and Professor Karl Pearson, and referred to Dr. None's research resulting in the discovery of alcohol in the cerebro-spinal fluid. In regard to the treatment and the prophylaxis of chronic alcoholic degeneration, he advocated the establishment in each country of an alcohol research institute which would form a centre of eugenics. In this connection a committee to create an alcohol research institute is being formed at Dr. Laquer's suggestion, other members being Drs. Abderhalden (Halle), Anton (Halle), v. Strumpell (Leipzig), Rothman (Berlin), Weygant (Hamburg). Dr. Laquer is general secretary of this committee.

Professor John Glaister of Glasgow in the discussion said when a man addicted to alcohol over more than one generation was married to a neurotic woman degeneracy in the offspring was marked, but if his wife was a robust woman the degeneracy was less marked. In the case of originally robust parents who subsequently became alcoholic the degeneracy in their later children was progressive.

Dr. C. W. Saleeby drew attention to the work of Professor Stockard of New York, who had proved the occurrence of alcoholic degeneracy by long and carefully controlled breeding experiments on guinea-pigs; and to the microscopic observations during the past five years of Dr. Bertholet of Lausanne, which he had lately carried so far as to demonstrate the degenerative action of alcohol upon the germ cells or ova in the female as he had previously shown for the germ cells of the male. Such researches ought to be more carefully considered by eugenists. Dr. Saleeby insisted that the evidence against alcohol as a racial poison, under certain conditions yet to be defined, is now complete, and deplored the attitude on this subject taken by Professor Karl Pearson and his followers in this country.

Dr. F. J. Smith of the London Hospital was inclined to take the general experience of thousands of years amongst populations numbering many thousands of millions rather than the investigations of a few workers extending over but very few years, as indicating the more probable effects of alcohol, either temporary or more permanent. From this point of view he had no doubt that the essential influence on the race and on heredity was in reality the old question of the moderate use versus the immoderate abuse of alcohol, and in the latter category he was inclined to put the massive doses with which Todd and his followers in the first half of the nineteenth century had treated acute disease.

Dr. Laquer replied, and with the passing of a resolution in support of experiments upon animals the morning session closed.—From newspaper report sent by Dr. Hupp.

STRYCHNIN—W. P. Lucas in the *Medical Record* for September 6th, reports a study of the effects of strychnin and caffein upon the heart in children. There is conflicting evidence from the pharmacologist and the clinician in regard to the value of strychnin. He had found that strychnin was practically of no effect when given in the ordinary doses in which it is prescribed for children. It was only when doses amounting to one-tenth of a grain or more were given (either in one dose, or in a quick succession of smaller doses) that any appreciable effect was noted, and then the effect appeared within thirty minutes and disappeared in two hours. He concludes that strychnin and caffein in the doses usually employed for cardiac stimulation are of no value. It was only when maximum doses are employed that an effect is obtained and this is usually of short duration; whether this was a beneficial effect was even questionable in children with cardiac involvement. It may be as Sollman has suggested, that strychnin stimulation makes the heart work harder and that it should not be used as a cardiac stimulant. Its effect in conventional doses on respiration was of no value. In large doses it did not appear to slow respiration to a point where there were toxic symptoms of increased hypersensitiveness of the reflex arc, or where the heart action became more rapid and the blood pressure fell.—*Cleveland Medical Journal.*

The West Virginia Medical Journal

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WHEELING, W. VA., FEBRUARY, 1914.

THE JOURNAL issued on the first of each month..

Subscription, - - - - - $1.00 per year
Single Copies, - - - - - - 15 cents

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Editorial

THE PROHIBITION LAW.

On Friday, the 16th of January, 1914, there was held at the Governor's reception room at Charleston a conference that perhaps is without parallel. Participating in the conference were the members of the West Virginia State Board of Health, State Board of Pharmacy, State Dental Board and representatives of the West Virginia Medical Association, West Virginia Pharmaceutical Association, West Virginia Dental Association and representatives of the wholesale druggists of the State. The subject of the conference was the West Virginia prohibition amendment and the law pursuant thereto.

The conference was addressed by Governor Hatfield, who in no uncertain terms made it understood that the prohibition amendment and law pursuant thereto would be enforced to the limit of the letter and spirit thereof. The amendment and the law, chapter 13, Acts 1913, known as the Yost Bill, were discussed by those present, among others taking part in the discussion and explanation of the law being State Tax Commissioner Fred O. Blue, ex-officio State Commissioner of Prohibition. Among other subjects made clear at the conference was that the keeping for sale and selling of any liquors, other than pure grain alcohol for medicinal, mechanical, pharmaceutical and scientific purposes and wine for sacramental purposes, *would be absolutely forbidden and prohibited.*

The forms for prescriptions to be used by physicians, affidavits to be used by druggists for sale of pure grain alcohol and wine for purposes above stated, record books to be kept by druggists, rules and regulations prescribed by the State Tax Commissioner, as Commissioner of Prohibition, and as submitted by him to the conference, were approved. Perhaps the most striking action of the conference, and one that has led us to say it was almost without parallel, was the unanimous adoption of a resolution that all of the professions and businesses represented would support the Governor and the State Tax Commissioner in the enforcement of the law.

FRED O. BLUE,
State Tax Commissioner.

The above was written by Mr. Blue at the suggestion of the editor, who was present at the conference referred to above. It was very apparent from the remarks made by the doctors and druggists present that the Yost Bill was considered as not altogether satisfactory to either of these classes. It is a well recognized fact that the profession of medicine is coming to the belief that entirely too much whiskey and brandy have been heretofore used by physicians in the treatment of disease. It is equally true that there are intelligent practitioners who honestly believe that there is never any necessity for the use of alcoholic preparations in medical practice, and that instead of being beneficial they are injurious in all cases. But it must be admitted that such physicians are in the minority, while many of the most eminent physicians in the profession still claim that alcohol is urgently demanded in extreme cases of depression and cardiac weakness such as are not infrequently met with in cases of typhoid fever, pneumonia and diphtheria, and it is a well recognized fact which few physicians will

be bold enough to dispute that in the pneumonia of those habitually accustomed to the free drinking of whiskey the use of that remedy will often make the difference between life and death.

Dr. A. Jacobi of New York, late president of the American Medical Association, stands without a rival as America's greatest physician in diseases of children. This man has recently testified that in many cases of diphtheria, sepsis and other conditions he has frequently saved lives by the very liberal use of whiskey after all hope had been given up by the attending physicians.

We make these statements here not as an advocate of the use of alcoholic stimulants in disease, for we personally very rarely make use of them and always with some doubt as to their efficacy, but since such eminent authorities as Jacobi and others whom we might quote insist on their great value in exceptional cases, we believe that an error was committed in the Yost Bill, which demands that nothing shall be used by physicians except grain alcohol, which the State Tax Commissioner insists means exactly what it says, and that under this provision of the law it will be illegal for any physician to prescribe whiskey or brandy. This fact we desire that every physician in the State shall clearly understand and that he shall note that the law will be enforced and that the representative physicians and druggists of the State present at the conference above referred to unanimously resolved that they will support the Governor and Commissioner of Prohibition in such enforcement. Unfortunately we have some physicians in the State, and they number not a few, who habitually prescribe whiskey for persons who desire to use it as a beverage, and no doubt it was the purpose of the Yost Bill to prevent such degrading practice by prohibiting prescriptions for whiskey and brandy under any possible circumstances. Let us stand together, then, in the rigid enforcement of the law and strive to rid the profession of such disgraceful members. S. L. J.

NATIONAL CONFERENCE ON RACE BETTERMENT.

Four hundred men and women of prominence, comprising the first representative group of scientific experts ever gathered in America for that purpose, met in Battle Creek January 8th to 12th to assemble evidence of race deterioration and to consider methods of checking the downward trend of mankind. The meeting was known as the First National Conference on Race Betterment. Through the co-operation of the press the objects and aims of the conference have been very widely disseminated and a resultant influence for better race ideals is anticipated.

Already the effect of the conference is apparent in Battle Creek, where popular interest in mental and physical efficiency was awakened by a series of public school tests which showed an alarming percentage of defective children in all grades.

The conference had its inception in the efforts of four men particularly interested in race betterment—Rev. Newell Dwight Hillis, pastor of Plymouth Church, Brooklyn, N. Y.; Dr. J. H. Kellogg of the Battle Creek Sanitarium, Sir Horace Plunkett, former minister of agriculture for Ireland, and Prof. Irving Fisher of Yale University. At the invitation of a central committee chosen largely by these men fifty men and women of national prominence in the fields of science and education consented to share in the program Their addresses, together with open discussion of many of the points considered, constituted a very widespread study of all phases of evident race degeneracy and the advocacy of many ideas of reform. Some of the suggested methods of improvement are frequent medical examination of the well, outdoor life, moderation in diet, biologic habits of living, the segregation or sterilization of defectives, the encouragement of eugenic marriages by requiring medical certificates before granting license, and the establishing of a eugenics registry for the development of a race of human thoroughbreds.

Among those having a share in the program were: Rev. Newell Dwight Hillis, Jacob Riis, Judge Ben B. Lindsey, Booker T. Washington, Dr. Victor C. Vaughan, Dr. S. Adolphus Knopf, Dr. C. B. Davenport, Dr. J. N. Hurty, the Very Reverend (Dean) Walter Taylor Sumner and many others of equal prominence.

Some of the interesting statements of the conference are summarized as follows:

"It will be no easy task to improve the race to the point where there will be no dependent children, but the elimination of the dependent

child will be one of the best indices of the superiority of our national stock."—Dr. Gertrude E. Hall, New York State Bord of Charities.

"I believe that a great deal can be done by publication of facts as to the physiological effects of alcohol, in the way of inducing educated and intelligent people to conserve their health by limiting the use of alcohol or giving it up altogether."—Henry Smith Williams, Author.

"Eugenics does not eliminate romance. We eugenists believe romance should be retained. Through the past it has proved a good thing." —Prof. Roswell H. Johnson, University of Pittsburgh

"In order that the race may survive it will apparently be necessary to make a eugenic selection of healthy mothers and to provide that the cost of bearing and rearing children shall be equally shared by all."—Prof. J. McKeen Cattell, editor *Popular Science Monthly.*

"The boys are learning that they have a calling just as sacred as the call to motherhood and that is the call to fatherhood."—The Very Reverend (Dean) Walter Taylor Summer of Chicago.

"The negro in the south, with all his weaknesses and handicaps, is not yet in any large measure, in the ditch."—Booker T. Washington, Principal of Tuskegee Institute.

"We must cultivate pure blood, instead of blue blood if we would develop a race of human thoroughbreds."—Dr. J. H. Kellogg, Superintendent Battle Creek Sanitarium.—(Abstract sent the Journal.)

SECRETARIES, ATTENTION!

Your attention is called to an amendment to the by-laws passed last year:

> "Each component society shall be entitled to send to the House of Delegates each year one delegate, who shall be the society's secretary, and one additional delegate for every twenty-five or fraction thereof above ten members."

This means that in societies having not more than ten members the secretary will be the only delegate. Of course if he does not care to attend any other member may be chosen as delegate in his place.

As soon as delegates are elected notify me and cards will be sent to them. Please secure all the good short papers you can for the Bluefield meeting, especially from members whose names have not heretofore appeared on the program.

If only *four* additional members who are in arrears for 1913 dues pay up we will have nine hundred members in the State Association. Cannot *you* get at least one of these?

A. P. BUTI, *Sec'y.*

PHYSICIANS WHO ARE ADDICTED TO DRUGS.

Among the widely varying classes of addicts three in particular are a source of the gravest danger—the drug-taking physician, nurse and pharmacist. Reputable medical men, writing on this subject, have alleged that fifteen per cent of their own profession are addicted to drugs. As compared with my own experience this seems a gross exaggeration, writes Charles B. Towns in the October *Century*, discussing "The Drug-Taker and the Physician," for though it is true that one-half of all my drug patients have been physicians, I am inclined to believe that the percentage of drug-takers among the profession is much below five rather than fifteen. This percentage is quite high enough, however, to be a standing menace to society.

To realize this one has merely to recall that the drug-taker is a confirmed evader of responsibility; and the physician, of all men, is in a responsible position. He must not forget or break his appointments; he must realize the effects of the medicines he is prescribing; if a surgeon, his work must never be below its best. But the proportion of physicians that I have treated—or consulted with—suggests one specially grave danger. It is a characteristic of the drug-taker, no matter who he is or how he acquired the habit, on the smallest excuse to advise others to take the drug whenever pain or fatigue gives the slightest occasion for it. While he grows callous to everything else, he has an abnormal sympathy with suffering. Thus it will readily be seen that there are few more dangerous members of society than the physician who is addicted to a drug.

The fact that there are not more drug-taking doctors speaks volumes for the high character of the profession. Those who have read my previous articles know that I have maintained that the easy accessibility of habit-forming drugs is the reason for their wide use. The physician has such drugs constantly at hand. The more a man knows of their insidious action and the more he handles them, the more cautious he feels himself to be and the more confident that he can discontinue the use of them whenever he chooses. Any fear that the layman may have of them is due less to the dread of being personally overcome than to the mystery which surrounds them; but for the physician they have no such mystery. Furthermore, by the nature of his calling he is peculiarly exposed to the need of such drugs. He is often under excessive physical and nervous strain not only because he is unable to arrange his work so as to prevent periods of too great pressure upon his time and strength, but also because in a unique manner he puts his heart into it.

An even greater danger, in some respects, is the drug-taking professional nurse. Whatever has been said of physicians both in the way of extenuation and of warning may be repeated of nurses. They have the same exposure to the habit and, once addicted, are likely to exhibit signs of irresponsibility.

As a matter of the most elementary precaution for all concerned no nurse should under any conditions be allowed to buy habit-forming drugs.—*Century Magazine.*

DEATHS OF PHYSICIANS IN 1913.

During 1913, 2,196 physicians died in the United States and Canada. Reckoning on a conservative estimate of 150,000 physicians, this is equivalent to an annual death rate of 14.64 per thousand. The average annual mortality among physicians from 1902 to 1913, inclusive, was 15.82

per thousand, so that last year the mortality was below the average. The chief death causes were senility, "heart disease," cerebral hemorrhage, pneumonia and nephritis. The age at death varied from 22 to 98, with an average of 59 years, 8 months and 12 days. The general average age at death since 1904 is 59 years, 7 months and 21 days. The number of years of practice varied from 1 to 73, the average being 32 years, 11 months and 7 days. The average for the past 10 years is 32 years, 7 months and 22 days. There were 253 deaths due to general diseases; 246 to diseases of the nervous system; 301 to diseases of the circulatory system; 166 to diseases of the respiratory system; 125 to diseases of the digestive system; 148 to diseases of the genito-urinary system; 298 to senility; 7 to diseases of the skin; 3 to diseases of bones; 43 to suicide; 101 to accident; 19 to homicide, and 82 to other causes. The causes assigned for the 101 deaths from accident were: automobiles, 34; falls, 11; runaways, 10; poison, 9; drownings and railway, each 8; conflagrations and street cars, each 3; exposure, asphyxiation, crushing, sunstroke and strangulation, each 2, and burns, firearms, cutting instruments, explosion and electricity, each 1. The 43 physicians who ended their lives by suicide selected the following methods: firearms, 24; poison, 14; strangulation and cutting instruments, each 2, and jumping from high places, 1. Of the 19 homicides, 17 were due to firearms and 2 to clubbings or beatings.

During the year 258 died who had served in the Civil War, and of these 72 followed the fortunes of the Lost Cause, 92 were medical officers of United States Volunteers and 2 were medical cadets. There were 3 veterans of the Mexican War; 19 had served in the Spanish-American War, 1 had served in Indian wars, 3 had been in the Indian service, and 15 had seen service in foreign wars. The army lost 29 medical officers, past and present, 4 officers of the Medical Reserve Corps on the active and inactive lists, and 13 acting assistant or contract surgeons. The navy lost 14 medical officers, the Public Health Service 12 officers and the organized militia 30, of whom 11 had attained the grade of surgeon-general.

Medical colleges sustained the loss of 155 professors, lecturers, instructors and demonstrators; hospitals lost 280 members of staffs; municipalities, townships and counties, 150 health officers, and school boards or boards of education, 85 members. There were 25 deaths of members of state boards of health, medical registration and examination and charities; 45 of coroners and medical examiners, and 93 of railway surgeons

Of those who died, 1 had been a member of Congress; 10 members of state senates; 32 members of the house of representatives; 44 had been mayors; 28 councilmen or aldermen; 41 had served in various civil official positions; 11 had been postmasters; 24 editors of medical or lay journals; 24 were also clergymen, of whom 14 were or had been foreign missionaries; 9 had been attorneys; 2 had been members of the diplomatic corps; 33 were bankers; 6 dentists; 16 pharmacists; 3 chemists, and 9 had been medical directors of life insurance companies or fraternal insurance societies. These figures are taken from the annual summary of deaths among physicians published by *The Journal of the American Medical Association.*

State News

The physicians in the southern end of the State are making great preparation for the Bluefield meeting of the State Medical Association. Each county medical society has a committee at work. Recently a joint meeting has been held, of which Dr. J. P. Kirk of McDowell county is chairman, Dr. Rutherford of Mingo county secretary and Dr. Thompson of Mercer treasurer. It was announced that it was the purpose of the organization to appropriate the sum of $1,500 to defray the expenses of the entertainment of the State Medical Society's convention here May 13, 14 and 15, while it was stated that the meeting was only for the purpose of making preliminary arrangements in perfecting the plans of the joint committee. It was stated that the "ball had been started to rolling" and that on February 4 another meeting would be held, when more concrete action toward the furtherance of the committee's plans would be taken. The meeting of yesterday was held in the offices of St. Luke's Hospital and was in session from 3:15 to 5 o'clock in the afternoon

* * *

Dr. L. A. Baker of Alvy, Tyler county, after lying in Wheeling Hospital severely sick of typhoid fever, recovered sufficiently to be taken home, where a relapse occurred, compelling his return to the hospital.

* * *

Dr. John Bennett of Friendly is now at Johns Hopkins Hospital taking a special course in nervous diseases. He contemplates moving west after his return home.

* * *

Dr. J. B. Lynch, late of Princeton, has located at Braden, Tyler county.

* * *

Dr. G. B. West, a retired physician of Sistersville, has recently purchased property in Washington and will move to that city.

* * *

Dr. J. O. Eddy of Pullman has purchased the practice of Dr. John Bennett and removed to Friendly.

* * *

The wife and son of Dr. M. M. Reppard of Middlebourne, the efficient county health officer, have recently recovered from a severe attack of scarlet fever.

* * *

Dr. J. L. Pyle of Chester, member of the State Board of Health, recently spent a Sunday in Middlebourne, the guest of his brother, S. G. Pyle.

* * *

Dr. J. W. Webb of Harrison county has recently removed from Sardis to Bristol.

* * *

Dr. L. L. Hall, late of Morgantown, has removed from that city.

Dr. F. M. Bosc has removed from Weston to Walkersville.

* * *

Dr. O. F. Covert announces that he has opened an office in the German Bank building, Wheeling, and will give special attention to diseases of women and diseases of the ear, nose and throat.

* * *

The Harrison County Society has established a medical library in St. Mary's Hospital, Clarksburg. The room is well lighted and comfortable in every way, and it is hoped that this library will promote better feeling among the physicians and a better attendance at the meetings of the society. Dr. S. L. Cherry, the hospital pathologist, is the library secretary, which assures success to the enterprise.

* * *

The editor had the pleasure of addressing the Marion County Society on Friday evening, January 30th, and greatly enjoyed meeting so many friends old and new, to say nothing of the fine banquet served after the regular meeting was over. The attendance was large and the meeting ought to be followed by good results. A number of laymen were present, including the officials of the new commission government of the city. The new mayor made a short speech, showing that he was alive to the sanitary interests of the community.

Society Proceedings

BARBOUR-RANDOLPH-TUCKER SOCIETY

The Barbour-Randolph-Tucker County Society sends greetings for the New Year.

The first meeting for 1914 was held in the Hotel Gassaway January 2d, 1914. Owing to the proximity to the holiday season and to sickness in most communities, preventing the physicians coming, our attendance was small. Few of those on the program for papers were present. Still, we had a good meeting and made preparation for work in the future.

Dr. Murphy, the new president, was unavoidably absent and Dr. L. W. Talbott presided in his place.

Dr. Golden called attention to the operation of the Public Service Commission as it affects the physician and the misconception of the public as to its purposes, stating that the new law governing same needed some amendments to perfect its full intent. On motion of Dr. Moore a committee was appointed to investigate the matter and report at the April meeting of the society and prepare a resolution to be forwarded to the State Medical Association suggestive of the necessary changes. Drs. Moore, Fredlock and Talbott were appointed as said committee.

Dr. E. R. Bryan, on his own request, was recommended to the medical society of Kentucky, with a view of locating at Russell, Ky. The society regrets his removal, but wishes him success in his chosen field of labor

In response to the request of the State Medical Society Drs. Golden, Few and Williams were appointed as the legislative committee, to look after the matters that need better legislative action, a saner regulation,

The Red Cross Committee, composed of the president and secretary, ex-officio members, and others to be appointed by the president of our society, whose duty it will be when necessary to co-operate with and assist when needed the Red Cross Association in relief work, received the approval of the society.

Dr. O. L. Perry read a thoughtful and carefully prepared paper on "Modern Treatment of Pneumonia." His effort displayed considerable research. He called especial attention to many changes in the management and treatment of this dread disease, since "the days of our fathers." The doctor discussed hygienic, medicinal and specific treatment. He laid much stress on the importance of cold, fresh air, absolute rest, advising frequent changes of patient's position, without his own efforts. Of drugs he favored the use of creosote carbonate in 7½ to 15-grain doses every three hours, and in cases requiring cardiac stimulation he advocated large doses of caffein and camphor. He expressed the belief that the treatment by sera and vaccines is too much in the experimental stage to be authorized, but believed that in the hands of an expert pneumococcus vaccines may be of value. He also pointed out the fact that the morbidity from pneumonia has diminished of late years, and attributed it to the fact that the people have learned to live more hygienically, thanks to the anti-tuberculosis campaign. The paper was commended and discussed by Drs. Golden, Moore, Talbott and Irons. Dr. Moore advocated hypodermic use of morphine to relieve the pain and restlessness in the early stages.

Owing to the absence of those to read papers on "Difficulties in General Practice," on "Differential Diagnosis of Diphtheria" and "Preventive Treatment of Typhoid Fever" and reports on same and the small attendance, the topics on the program were omitted and we had an informal discussion of matters of interest to physicians in general and especially those commanding our immediate attention.

Our members are paying up for the year 1914. We realize that the society needs us, but most of all we need the society. Up our way we are beginning to appreciate the need and benefits of medical defense and trust that by standing shoulder to shoulder we may soon cease to be haled to the courts by ungrateful patients, scheming lawyers or conniving physicians on the simplest pretexts.

J. C. IRONS, *Secretary.*

EASTERN PANHANDLE SOCIETY.

The regular annual business meeting of the Eastern Panhandle Medical Society was held at Harper's Ferry December 23d, 1913. Eighteen members were present out of a membership of forty-six.

Dr. J. M. Sites of Martinsburg read an interesting paper on the recent London Medical Congress. Dr. C. L. Skinner read a paper on "An Unusual Source of Haemorrhage During Labor.'

Dr. R. E. Venning of Charles Town reported two very interesting clinical cases. After dinner at the local hotel the secretary-treasurer made his report for the past year. Dr. G. C. Shuler

was elected to membership. The following officers were elected for the ensuing year:

President—Dr. George W. Swimley, Bunker's Hill.

Vice President—Dr. W. W. Brown, Shenandoah Junction.

Secretary and Treasurer—Dr. C. L. Skinner, Charles Town.

The following legislative committee was appointed by the retiring president, Dr. T. K. Oates: Drs. Eagle, Skinner, Lemaster, Grubb and J. M. Miller.

A committee was appointed by the president to assist the secretary in getting up the programs for the year. Drs. Ranson, Phillips and Osbourn were appointed on this committee.

Martinsburg was selected as the place for the next meeting on the second Wednesday in March.

C. L. SKINNER,
Secretary and Treasurer.

CABELL COUNTY SOCIETY.

HUNTINGTON, W. VA., Jan. 10, 1914.

Editor W. Va. Medical Journal:

The regular monthly meeting of this society was held on the evening of January 8th in the Hotel Frederick.

The evening was taken up with the reports of clinical cases.

After adjournment a lunch was served in the cafe.

Fraternally yours,
JAMES R. BLOSS, *Secretary.*

KANAWHA MEDICAL SOCIETY.

CHARLESTON, W. VA., Jan. 20, 1914.

Assembly Rooms, Hotel Kanawha.

Program—Symposium on Nephritis.

Actiology and Pathology—Dr. G. H. Barksdale. Discussion opened by Dr. A. A. Shawkey.

Symptoms and Laboratory Findings—Dr. R. A. Ireland. Discussion opened by Dr. H. L. Robertson.

Ocular Manifestations—Dr. P. A. Haley. Discussion opened by Dr. L. C. Covington.

Regular meeting February 3, 1914. Program—Symposium on Nephritis (Continued).

Treatment, Medical and Dietetic—Dr. J. W. Moore. Discussion opened by Dr. W. W. Tompkins.

Treatment, Surgical—Dr. J. E. Cannaday. Discussion opened by Dr. G. C. Schoolfield.

Prognosis—Dr. I. P. Champe.

DR. A. A. SHAWKEY,
Secretary-Treasurer.

LITTLE KANAWHA AND OHIO VALLEY SOCIETY.

The annual meeting of this society was held Thursday evening, January 8th. The election of officers resulted as follows:

President, Dr. M. McNeilen; First Vice President, Dr. G. D. Jeffers; Second Vice President, Dr. Rayburn of Ravenswood; Third Vice President, Dr. Dye of Grantsville; Secretary, Dr. M. G. Stone; Treasurer, Dr. W. H. Sharp; Counsellors, Drs. Gaynor, Gamble, Price, Stille and Wise.

A committee composed of Dr. Price and Mr. C. Neptune, pharmacist, was appointed to confer with the postal authorities as to the injustice of the ruling that physicians cannot place written labels on medicines which they desire to forward through the mails.

Dr. Casto reported a very interesting case of fatal diphtheria complicated by purpura hemorrhagica, which was generally discussed by those present.

Drs. Sharp and Price made an extended and well prepared report on additional desired legislation in which they recommended the appointment of a commissioner of health with plenary powers to plan and carry out instruction of the people on the important subject of health, the prevention of disease, the care of children, etc. They also advocated the compulsory vaccination of school children, the rigid enforcement of the pure food law, free antitoxin to the poor, the suppression of medical fakirs, the establishment of an institution for feeble-minded children and a law regulating the sale of antiseptic tablets.

Dr. Sharp informed the members that he had word from the A. M. A. office to the effect that the reports as to the poison needle were fakes. After some discussion it was decided to have a dinner at the next meeting and to invite some distinguished medical man to read a paper on that occasion.

W. H. SHARP, *Treasurer.*

THE McDOWELL COUNTY SOCIETY.

IAEGER, W. VA., Dec. 10, 1913.

The society was called to order at 8:30 o'clock on December 10th by President Anderson.

Members present: Drs. Hicks, Anderson, Round, Camper, Peters, Hall, Stevens, Salton, J. E. Hatfield, Sammeth, J. B. Kirk, Thomas W. White and S. D. Hatfield. Visitors, Drs. Chas. T. St. Clair, Thompson, Perry and Beeker of Mercer County Society; D. J. F. Strother, Judge I. C. Herndon and John Lither of Welch and S. P. Younglove of Walton, Indiana.

Minutes of preceding meeting were approved with commendation from the members and visitors.

Discussion of clinical cases and papers was passed over.

Communications read and the secretary instructed to reply to such ones as demanded attention.

Dr. Hicks reported that our fellow member, Dr. P. H. Killey, had sustained a fractured limb from a fall from his horse. A motion was carried that a committee on resolutions be appointed to express to Dr. Killey the sympathy of the members.

Dr. Stevens reported the death of Mrs. Cook, the wife of one of our faithful members. Drs. Clark, Kirk and Hall were appointed to draft resolutions pertaining to the death of Mrs. Cook and Dr. Killey's injury.

The chairman of the committee for legislation along the line for free antitoxin made a partial report and promised to make a complete report in a paper to the meeting of the State Medical Association in May.

Application of Dr. W. E. Riley of Elbert was received and laid over until the next regular meeting.

On motion all business matters were dispensed

with and the society proceeded to the election of officers for the ensuing year. Nominations were received. The secretary was then by motion instructed to cast the ballot for all officers who were the sole nominees for the respective offices. The secretary cast the ballot for all nominees and the president declared the officers for the ensuing year to be as follows:

President—Dr. S. D. Hatfield.
First Vice President—Dr. J. B. Kirk.
Second Vice President—Dr. L. H. Clark.
Secretary—Dr. J. Howard Anderson.
Treasurer—Dr. W. L. Johnson.
Censor (term to expire December, 1916)—Dr. J. B. Kirk.

The chairman of the committee on arrangements for the entertainment for the evening reported that there was waiting in the large hall of the club a feast for the members of this society, and that the visitors were welcomed by all the family. A motion for adjournment to the banquet room was quickly seconded and carried by a unanimous vote.

S. D. HATFIELD, *Secretary.*

MINGO COUNTY SOCIETY.

WILLIAMSON, W. VA., Jan. 14, 1914.

Editor W. Va. Medical Journal:

The Mingo County Medical Society met in the reception room of the Williamson Hospital on the afternoon of January 13, 1914.

The December meeting having been postponed, the annual election of officers was held, resulting in the following elections:

President—Dr. Tunis Nunemaker, Williamson.
Vice President—Dr. G. T. Conley, Williamson.
Secretary and Treasurer—Dr. Wm. H. Triplett, Williamson.
Censor—Dr. W. D. Amick, Glen Alum.

Retiring President Rutherford read a very impressive address outlining original ideas concerning our society work, which we believe will prove fruitful and yield a big harvest of good to our society in general.

Dr. W. H. Burgess reported a case of typhoid fever which developed a double lobar-pneumonia during the second week. This case was discussed by the society at large with much enthusiasm. We are looking forward with interest to the State Association meeting in Bluefield and hope to help make it one of the greatest in the history of the society.

Our local February meeting should be a great success, as we have an excellent program promised.

Yours very truly,
WM. H. TRIPLETT, *Secretary.*

Medical Outlook

FUNDAMENTALS IN OFFICE BUSINESS METHODS.

By H. G. LANGWORTHY, M.D., Dubuque, Ia.

A certain method of routine will be found to underlie any successful office business. Although the following points are acknowledged fundamentals in office building, it is surprising what a large proportion of practicing physicians fail to observe even these simple rules. Stricter business methods must be employed by every physician if he is to succeed in his chosen profession. Financial success, after all, is the only thing which enables us to give patients more careful thought and the benefits of the latest scientific apparatus for diagnosis and treatment. Begin today and write the following indelibly on your memory:

1. Don't forget to mark every office visit and house call as a specific charge.
2. All bills must be rendered the first of every month, or at least quarterly. Statements should preferably be sent out in regular bill form and run through a typewriter by the office girl.
3. Never leave the office uncovered while away—you may miss many calls or inquiries which might later lead to business.
4. See to it that an extra charge is made for medicine dispensed, apparatus, bandage rolls, or sterilized gauze and cotton. Chemical and microscopical examination must always be charged extra.
5. Make reasonable charges and then collect.
6. Don't undercharge people who can well afford to pay the proper fee. A thorough physical examination is worth all you can get for it.
7. Know the exact amount of your office expenses. A weekly saving should be arranged for with one of the local savings banks and considered a part of the office expenses.
8. Never invest until you can see clearly that every dollar you put into an investment is getting one hundred cents of real tangible property.

HORSE-SERUM IN HEMORRHAGE.

C. G. Levison, San Francisco *(Journal A. M. A.*, March 8), reports two cases of persistent hemorrhage, one from the bladder after cauterization and the other from the exposed gall-bladder after an exploratory operation for carcinoma, both of which were relieved at once by local applications of horse-serum instead of by the usual hypodermic injection or transfusion. In each case a flask of horse-serum was poured into the open bleeding surfaces, causing prompt and permanent cessation of the hemorrhage.

CONTRAINDICATIONS TO SALVARSAN.

Among contraindications to the use of salvarsan, Beck mentions *(Annals of Otology, Rhinology and Laryngology)* heart disease and aortic aneurism. Acute nephritis, except of the luetic type, is an absolute contraindication. Ulcerative conditions of the stomach and duodenum and acute swelling or cirrhotic or atrophic liver point to the need for care in using salvarsan. Other conditions adding to the danger of salvarsan are marked progressive degenerative changes in the nervous system, especially when arteriosclerosis is present. Diabetes and general marked obesity should be remembered as adding a dangerous element to salvarsan therapy.

KOCH AND CERUM: INTUSSUSCEPTION IN CHILDREN; 400 CASES.

Edinb. M. J., 1912, ix, 227, by Surg., Gynec. & Obst.:

The authors recommend the bloodless method of treatment, giving statistics showing that they are able to obtain better results in children under one year. The operative method is recommended for children over one year of age, as they are better able to withstand an operation. The advantages of the bloodless method are its availability in general practice and the relative safety in tender childhood. The disadvantages are incomplete disinvagination, perforation, and tendency to relapse. In the bloodless method they employ taxis and the introduction of large amounts of water under deep anaesthesia. The technique is simple.

The cases reported have been observed in a period of 19 years. Sixty per cent occurred in the first year, of which two-thirds were in the fifth to seventh month. During the second year of life no more cases occurred than did in the fifth and sixth month. The most common form of intussusception is the ileo-caecal. It was found in 81 per cent of cases under one year and 66 per cent over one year. The predisposing factors were found to be ascarides, polypi, Meckel's diverticulum, castor oil indiscriminately given, causing strong and irregular peristalsis, and diarrhoea. The latter seems to play an important part, as most cases occurred during the fifth to seventh month, just at the time when the child is started on artificial food.

The authors lay stress on four cardinal symptoms: Pain typically colic in type; vomiting, usually occurring early; blood-stained mucus per rectum, appearing about six hours after onset; and tumor mass. The blood-stained mucus may be absent in small intestine intussusception. The tumor mass is found in the upper left quadrant of the abdomen. It can be felt in the rectum in 40 per cent of the cases. All patients should be examined under deep anaesthesia. Meteorism is considered an unfavorable sign. No rise in temperature was noted during the first two days of the illness.—EDWARD L. CORNELL.

Members of West Virginia Medical Society.

Abbott, J. G. .....Piedmont
Abshire, A. S.....Beckley
Ackerman, Gregory ....Wheeling
Adkins, A. W.....Griffithsville
Albert, C. W.....Parkersburg
Albin, A. O.....Charles Town
Alkire, J. P.....Middleton
Allen, S. P.....Webster Springs
Altizer, A. E.....Man
Amick, A. L.....Charleston
Amick, W. D.....Glen Alum
Anderson, J. H.....Marystown
Anderson, Maury..... Ward
Arbuckle, J. A.....Elkins
Algabrite, O. P.....Alderson
Armbrecht, E. L.....Wheeling
Arnett, C. T.....Clarksburg
Arnett, U. G.....Pt. Pleasant
Arnold, J. R. .....Follansbee
Aschman, G. A.....Wheeling
Ashby, J. W.....Carbon
Aultz, L. L.....Charleston
Aultz, O. L.....Charleston
Austin, S. C. .....Peytons

Babb, W. M.....Keyser
Baber, J. H.....Rush Run
Baird, Reed McC.....Wheeling
Baker, F. L.....Burlington
Baker, J. T.....Huntington
Ball, E. H.....Charleston
Ballard, C. C.....Gap Mills
Banks, G. W.....Shepherdstown
Banks, McRae C.....Raleigh
Bannister, J. H.....Fayetteville
Barbee, H. A.....Pt. Pleasant
Barg, Elias.....St. Louis, Mo.
Barger, F. W.....Hiawatha
Barker, O. D.....Parkersburg
Barksdale, G. H.....Charleston
Barlow, C. A.....Spencer
Barlow, P. D.....McMechen
Barnett, A. B.....Wheeling
Barr, J. M.....Weirton
Barrows, J. E.....Ravenswood
Bates, C. S.....Lumberport
Bays, A. E.....Boomer
Beam, E. C.....Moundsville
Bean, W. P. .....Keystone
Becker, T. H.....Bluefield
Beer, O. S.....Buckhannon
Bennett, John .....Friendly
Bernard, Holman ....Huntington
Best, D. B.....Wheeling
Bilger, F. W.....Gulf
Bigony, J. F.....Hinton
Bird, B. W.....Princeton
Bird, J. H.....Rock
Birney, I. P.....Wheeling
Bitner, E. H.....Martinsburg
Black, A. S.....Carbon
Blake, G. C.....Powellton
Bloss, Jas. R.....Huntington
Boggs, A. S.....Gassaway
Bombarger, G. L.....Independence
Bonar, W. P.....Moundsville
Bond, Xenia E.....Salem
Booher, W. F.....Bethany
Boso, F. M.....Weston
Bosworth, A. S.....Elkins
Bosworth, J. W. .....Philippi
Bosworth, Perry .....Huttonsville
Bosworth, J. L.....Huttonsville
Boweock, J. McCue...Clarksburg
Boyd, Jno. R.....Oakvale
Boyers, C. S.....Ellenboro
Boyers, L. B.....Fairmont
Boyers, W. F.....Fairmont
Brandebury, H. A.....Huntington
Bragonier, R. K.....Keystone
Brock, L. S.....Morgantown
Brooke, O. V.....Moorefield
Brown, H. M.....Union
Brown, H. J.....Wilsonburg
Brown, M. F.....West Hamlin
Brown, R. L.....Parkersburg
Brown, W. W.....Shenandoah Jct.
Brownfield, G. H.....Fairmont
Bruce, W. E. .....Herberton
Bruns, W. F.....Ceredo
Bryan, R. E.....Moatsville
Buffington, E. S.....Huntington
Bullard, Irene B.....Charleston
Bullard, R. H.....Wheeling
Burgess, W. H.....Williamson
Burner, A. E.....Spruce
Burns, J. E.....Wheeling
Bush, A. B.....Weston
Butler, M. S.....Hedgesville
Butt, A. P.....Davis

Caldwell, J. R.....Wheeling
Camden, Rollo..Washington, D. C.
Cameron, W. T.....Buckhannon
Campbell, A. B.....Loveland, Cal.
Campbell, C. R.....Chester
Campbell, C. R.....Williamsburg
Campbell, H. J.....Huntington
Campbell, H. M.....Parkersburg
Campbell, J. A.....Beckley
Campbell, J. A.....Wheeling
Camper, H. G.....Welch
Cannaday, J. E.....Charleston
Capito, G. B.....Charleston
Carter, H. L.....Danville
Carter, J. T.....Triadelphia
Carr, E. S.....Echo
Carr, Hugh .....Fairmont
Casey, M. R.....Weston
Carwell, U. M.....Hendricks
Casto, D. C.....Parkersburg
Casto, V. L.....Ripley
Cecil, E. T.....Bramwell
Champe, I. P.....Charleston
Chaney, T. H.....Kerens
Chapman, D. D.....Vadis
Cherry, H. J.....Coalton
Cherry, S. L.....Clarksburg
Chenoweth, J. F.....Simpson
Churchman, V. T.....Charleston
Clark, L. H.....Kyle

Clemens, B. S. .....Matoaka
Clemmer, C. A.....Star City
Cobun, L. W.....Morgantown
Coffindaffer, D. L.....Shinnston
Cole, J. Plummer .....Wheeling
Cole, J. K.....Aurora
Cole, V. D.....Academy
Coleman, J. E.....Beckley
Collins, J. C.....Grant Town
Conley, G. T.....Williamson
Connelly, Commodore..Richardson
Coogle, W. L.....Rivesville
Cook, U. G.....Beckley
Cook, W. E.....Algoma
Cooper, E. R.....Curtain
Cooper, J. E.....Cameron
Cooper, O. O.....Hinton
Copeland, C. E.....Charleston
Corbin, E. A.....Ellenboro
Corbin, J. E.....Wolf Summit
Corbitt, R. W.....Waverly
Cornett, B. F.....Bluefield
Covert, O. F.....Moundsville
Covington, L. C.....Charleston
Cox, C. C.....Morgantown
Cox, E. M.....Fairmont
Cox, J. A.....Morgantown
Cox, J. E.....Riley
Craft, J. H.....McComas
Cracraft, L. K.....Elm Grove
Cracraft, W. A.....Wheeling
Craig, J. S.....Eccles
Criss, H. L.....Fairmont
Crittenden, T. B.....Horton
Cronin, D. J.....Huntington
Crow, W. F.....Glen Easton
Cummings, Edward .....Hinton
Cummings, W. R.....Huntington
Cunningham, J. L.....Pickens
Cunningham, W. H.....Blue Jay
Cure, M. D.....Weston
Currence, L. J.....Clarksburg
Curry, A. W.....Ronceverte
Curry, W. C.....Flemington
Cutright, R. G.....Rock Cave
Cutright, D. M.....Buckhannon

Dailey, W. F.....Terra Alta
Dalbey, W. M.....Wheeling
Daniels, H. W.....Elkins
Daniels, G. P.....Marshes
Daniel, S. A.....Welch
Dare, F. T.....Wellsburg
Davidson, W. J.....Parkersburg
Davidson, J. J.....Rocky Gap
Davis, E. A.....Charleston
Davis, Eugene .....Charleston
Davis, G. R.....McDonald
Davis, G. H.....Wierton
Davis, H. E.....Logan
Davis, R. T.....Charleston
Davis, W. M.....Bridgeport
Davis, J. L.....Elk Ridge
Dearman, U. L.....Reedy
DeForest, W. C.....Clarksburg
Denham, Cecil .....Weston
deVeber, J. W.....Ronceverte
Dickey, J. L.....Wheeling
Divvins, H. M.....Masontown
Dodrill, J. B.....Webster Springs
Dolin, A. J.....Foster
Dodson, Ross .....Spencer
Douglas, E. H.....Petrolcum
Dove, Wm. .....Harman
Dowler, M. A.....Glendale
Downing, T. F. .....Wheeling
Draper, S. C.....Logan
Drinkard, R. U.....Wheeling
Drinkwater, W. G.....Gormania
Duffy, J. J.....Glen Easton
Dunham, R. W.....Bemis
Dunlap, W. V.....Sun
Dupuy, E. S.....Sunmerlee
Durrett, J. J.....Fairmont
Dye, J. A. .....Minnora
Dye, Victor Hugo.....Sistersville
Dye, W. T.....Grantsville

Eagle, A. B.....Martinsburg
Eakin, B. W.....Carlisle
Eanes, R. H.....Widen
Easley, E. M.....Bluefield
Eddy, J. O.....Pullman
Edgell, A. M.....Cairo
Edgell, L. L.....Keyser
Edmundson, R. H:....Morgantown
Elliott, T. H.....Gauley Bridge
Ellis, J. E. R.....Grafton
English, E. R.....Bramwell
English, J. W.....McDowell
Enslow, C. R.....Huntington
Evans, A. J.....McMechen
Evers, Florence B.....Martinsburg

Fairfax, H. R.....McComas
Falconer, H. S.....Fairmont
Farley, H. H.....Logan
Farley, W. F.....Holden
Farnsworth, F. F...French Creek
Farson, J. P.....Century
Fawcett, W. P.....Alderson
Fawcett, Ivan .....Wheeling
Ferrill, U. S. G.....Cairo
Few, S. D.....Parsons
Fisher, M. O.....Parkersburg
Fisher, Otto .....Medley
Fisher, R. W.....Morgantown
Fitch, F. A.....Huntington
Fittro, E. B.....Salem
Flowers, A. O.....Clarksburg
Flowers, E. N.....Clarksburg
Folk, John .....Bridgeport
Foreman, L. H.....Buckhannon
Fortney, Mary J.....Hundred
Fortney, F. D.....Newburg
Fouche, C. R.....Berkeley Springs
Fox, G. W.....Ansted
Fox, L. O.....Ansted
Fox, J. F.....Bluefield
Frame, A. N.....Parkersburg
Fredlock, A. M.....Elkins
Frissell, C. M.....Wheeling
Fry, D. P.....Hedgesville
Fugate, I. T.....Anawalt
Fulton, W. S.....Wheeling

Garrett, B. D.....Whites Creek
Gaston, Wade .....Parkersburg
Gaston, Wm. .....Clarksburg
Gautier, C. V.....Frametown
Gautier, W. I.....Athens
Gaydosh, M. .....Wheeling
Gaynor, H. E.....Parkersburg
Geiger, J. C.....Huntington
Gerlach, E. B.....Huntington
Gerlach, H. P.....Huntington
Gilchrist, T. I.....Pickaway
Gillespie, Thurman .....Wheeling
Glass, E. F.....Wheeling
Goad, Norman .....Strange Creek
Gocke, Wm. J.....Adamston
Godbey, J. O.....Madison
Godbey, M. V.....Charleston
Goff, J. J.....Parkersburg
Goff, J. M.....Hazlegreen
Goff, L. G.....Burnt House
Goff, T. N.....Kenova
Goff, W. P.....Clarksburg
Goings, H. C.....Matewan
Golden, W. W.....Elkins
Good, J. M.....Paden City
Goodman, H. L.....Thayer
Goodwill, J. J.....Bluefield
Gordon, P. L.....Charleston
Gouchenour, G. S.....Moorefield
Graham, Jas. A.....Fairmont
Gray, P. L.....Williamstown
Green, W. H.....Camden
Gribble, O. G.....Mill Creek
Grimm, A. S.....St. Marys
Grimm, C. E.....St. Marys
Grissinger, G. F.....Vanctta
Grose, Ed. J.....Fayetteville
Grove, J. B.....Petersburg
Grubb, A. L.....Berkeley Springs
Gruber, M. F.....Helvetia
Guthrie, James .....Romney
Guthrie, J. A.....Huntington
Guthrie, L. V.....Huntington

Haley, P. A.....Charleston
Hall, C. H.....Elkins
Hall, H. M.....Wheeling
Hall, E. T. W.....Freemansburg
Hall, L. L.....Morgantown
Hall, R. W.....Moundsville
Hall, W. C.....Welch
Halterman, C. W.....Clarksburg
Hamilton, E. M.....Belington
Hamilton, M. F.....Mannington
Haning, N. A.....Wheeling
Hannah, U. H.....Spruce
Hannah, Alex .....Sardis
Hansford, J. H.....Pratt
Harden, B. F.....Wellsburg
Hardy, Irvin.....Morgantown
Hare, O. S.....Bluefield
Harless, W. F.....Clothier
Harless, L. R.....Glen Ferris
Harloe, W. W.....Matoaka
Harper, Glenn .....Beverly
Harris, Ben C.....Williamson
Harris, T. A.....Parkersburg
Harrison, B. E.....Parkersburg
Haskins, T. M.....Wheeling
Hatfield, A. J.....Madison
Hatfield, D. D.....Yukon
Hatfield, E. R.....Charleston
Hatfield, H. D.....Eckman
Hatfield, J. E.....Mohawk
Hatfield, S. D.....Iaeger
Hays, H. C.....Princeton
Haynes, A. F...Big Wells, Texas
Haynes, H. H.....Clarksburg
Haynes, R. A.....Clarksburg
Haynes, W. N.....Boomer
Heath, C. F.....Weston
Heartley, G. H.....Eagle
Heatherman, K. J.....Glen Alum
Hedges, G. B.....Martinsburg
Henderson, H. A.....Wheeling
Henderson, O. J.....Montgomery
Henly, L. W.....Big Creek
Henry, C. O.....Fairmont
Henshaw, W. T.....Martinsburg
Hess, M. O.....Longacre
Hicks, Chas. F.....Welch
Hicks, I. C.....Huntington
Hicks, J. O.....Huntington
Highberger, W. T.....Maysville
Hildreth, E. A., 2nd....Wheeling
Hildreth, E. A. 3rd....Wheeling
Hill, F. W.....Fairmont
Hill, E. A.....Clarksburg
Hill, J. O.....Logan
Hill, Wm. G. C.....Cameron
Hirst, H. P.....Leetown
Hively, H. D.....Charleston
Hodges, J. H.....Harpers Ferry
Hoff, M. M.....Philippi
Hoffman, C. S.....Keyser
Hoffman, Max .....Bunker Hill
Hoffman, O. H.....Thomas
Hoge, A. H.....Bluefield
Hogg, C. C.....Huntington
Hogg, Gory .....Glen Jean
Holland, C. L.....Fairmont
Holroyd, F. F.....Athens
Holroyd, S. R.....Athens
Holsberry, F. S.....Berryburg
Hood, T. M.....Clarksburg
Hoover, M. T.....Palmer
Hopkins, J. W.....Fayetteville
Hott, David .....Morgantown
Houston, I. N.....Moundsville
Houston, J. M.....Elm Grove
Howard, E. W.....Fairmont
Howard, G. L.....Switchback
Howard, L. D.....Fairmont
Huff, Ford .....Parsons
Hughart, J. E.....Cliff Top
Hughart, J. R.....Burnsville
Hughey, W. R.....Charleston
Hume, B. L.....Barboursville
Hume, W. W.....Beckley

Hunter, J. Ross.....Hansford
Hupp, F. L.....Wheeling
Hutchinson, C. E.....Moundsville
Hutchins, W. S.....Oberlin, Ohio

Ireland, R. A.....Charleston
Irons, J. C.....Elkins
Irvine, Alex .....McDowell
Irvine, G. B.....Coopers

Jackson, J. A.....Ronceverte
Jamison, J. A.....Fairmont
Jamison, W. C.....Fairmont
Jarrell, V. M.....Affinity
Jarvis, C. C.....Clarksburg
Jarrett, L. H.....Charleston
Jarvis, J. W. P.....Fairview
Jeffers, G. D.....Parkersburg
Jepson, S. L.....Wheeling
Jett, J. C.....Bluefield
Jobson, W. R.....Fairmont
Johnson, C. A.....Bluefield
Johnson, C. C.....Shenandoah Jct.
Johnson, G. D.....Kenova
Johnson, G. W.....MacAlpin
Johnson, H. R.....Fairmont
Johnson, D. B.....Three Churches
Johnson, S. L.....Princeton
Johnson, W. L.....McDowell
Jones, A. P.....Pennsboro
Jones, Harriet B.....Wheeling
Jones, H. C.....Logan
Jones, L. P.....Pennsboro
Jones, W. H. V.....Mole Hill
Judy, W. J.....Glenn Falls

Kinney, C. L.....Glovers Gap
Kirk, J. B.....Elkhorn
Knott, S. T.....Shepherdstown
Koiner, W. W.....Sullivan
Kornmann, L. F.....Clarksburg
Kunst, A. H.....Parkersburg
Kunst, W. H.....Fairmont
Kalbaugh, Z. T.....Piedmont
Keating, T. F.....Grafton
Keatley, H. W.....Wevaco
Keay, Elizabeth .....Wheeling
Keesor, Chas. H.....Wheeling
Keever, L. F.....Parkersburg
Keim, P. S. .....Elk Garden
Keister ,H. S.....Middleton
Kelly. M. B.....Wheeling
Kemper, A. J.....West Milford
Kent, O. A.....Huntington
Kerr, W. W.....Volga
Kessler, A. K.....Huntington
Kessler, C. M.....Clarksburg
Kidd. J. W. .....Burnsville
Killey, J. C.....Eckman
King, J. M.....Buckhannon
King, W. P.....Weston

Ladwig, O. W.....Evenwood
Langfitt, F. V.....Salem
Lantz, J. O.....Hartmanscille
Lantz, Percival .....Alaska
Lawson, J. C.....Auburn
Lawson, S. B.....Logan
Lawson, S. F. .....Will Dell
Leahy, Wm. J.....Mannington
Lee, C. B.....Glen Jean
Leeson, D. .....Adamston
LeFever, Edgar .....Bunker Hill
Lemon, C. W. .....Claremont
LeMaster, A. J.....Bedington
LeSage, I. R.....Huntington
Lewis, Geo. E.....Chester
Lind. G. D. .....Greenwood
Link, W. S. .....Parkersburg
Linsz, H. P. .....Wheeling
Lockridge, J. B.....Huntersville
Long, D. J.....Piedmont
Louchery, D. C.....Clarksburg
Love. Robt. W.....Moorefield
Lovett, J. M.....Huntington
Lucas, J. B.....Mayberry
Lynch, R. V.....Hepzibah
Lyons, J. W.....Holden

McKenzie, A. L.....Racine
MacQueen, G. A.....Charleston
Mahood, C. F.....Alderson
Mairs, Atlee.....Charleston
Makin, J. B.....Weirton
Malcolm, M. P.....Lewiston
Maloy, J. S.....Shinnston
Mankins, J. W.....Thurmond
Manning. G. W.....Dobbin
Marple, F. O.....Rowlesburg
Marsh, W. A.....Barracksville
Martin, A. Y.....Winfield
Martin, C. A.....Harvey
Martin, E. V.....Augusta
Martin, E. H.....Oxford
Martin, J. E.....Bluefield
Martin, L. A.....Parkersburg
Mason, S. M.....Clarksburg
Massey, S. E.....Bramwell
Matheney, B. F.....Clarksburg
Matson, F. L.....Hundred
Maxwell, C. H.....Morgantown
Maxwell, M. H.....Keyser
Mayer, Joe .....Charleston
McBee, T. Jud.....Morgantown
McCarty, J. L.....Berwind
McClung, T. C.....Ronceverte
McClure, U. G.....Putney
McCollough, M. M....Deep Valley
McCollum, J. R.....St. Marys
McComas, E. C.....Flat Top
McConihay, J. M.....Charleston
McCord, William C....Huntington
McCuskey, A. E.....Pine Grove
McCoy, O. D.....Wheeling
McCullough. J. H.....Welch
McCune, M. V.....Martinsburg
McCuskey, L. H.....Moundsville
MacDonald, J. E.....Logan
McDonald, J. W.....Fairmont
McDonald, R. H.....Newlonton
McElfresh, Edw. ....Pt. Pleasant
McElrath, J. P.....Bluefield
McFerrin, S. A....Falling Springs
McGlumphy, W. G....Moundsville
McGovern, A. M.....West Union
McGuire, F. E.....Mt. Hope
McGuire, Joseph .....Princeton
McGuire, T. J.....Parkersburg
McGuire, W. C.....Huntington
McGuire, J. P.....Clarksburg
McIntosh, E. R.....Elkins
McKinney, L. L. .....Burnsville
McLain, W. H.....Wheeling
McLain, W. L.....West Union
McMillan, R. M.....Wheeling
McMillan, W. A.....Charleston
McNeer, L. C.....Dante, Virginia
McNeilan, M. .....Parkersburg
McSherry, J. W.....Martinsburg
Megrail, W. P.....Wheeling
Meighan, T. H.....Wheeling
Melvin, J. W.....Shenadoah Jct.
Millard, J. B.....Williamson
Miller, G. R.....Fairview
Miller, J. I.....Kenova
Miller, J. L.....Thomas
Miller, J. M.....Charles Town
Miller, R. B.....Hinton
Miller, R. W.....Martinsburg
Miller, T. H.....Fairmont
Miller, W. D.....Weaver
Monroe, J. A.....Wheeling
Monroe, Mary B.....Wheeling
Moore, Chas. L.....Upper Tract
Moore, J. W.....Charleston
Moore, P. G.....Mannington
Moore, S. G.....Elkins
Moore, T. W.....Huntington
Morford, J. A.....Grantsville
Morgan, C. G.....Moundsville
Morgan, D. E.....Matewan
Morgan, D. P.....Clarksburg
Morris, S. J.....Morgantown
Morris, J. S.....Charleston
Morrison, L. C.....Hurricane
Morrison, M. T.....Sutton
Murphy, F. B.....Philippi

Musgrave, D. E.....Standard
Musgrave, J. E.....Handley
Myers, S. N.....Martinsburg

Nawrath, C. J.....Berkeley Springs
Neal, H. W.....Spruce
Neal, S. H.....Elk Horn
Neal, Wm. E. .....Huntington
Neill, Wm. .....Charles Town
Nedrow, J. S.....Bruceton Mills
Nelson, Jas. .....Parkersburg
Nicholson, H. G.....Charleston
Nolen, J. T.....Mammoth
Noome, A. J.....Wheeling
Nunemaker, Tunis ....Williamson
Nutter, R. B. .....Enterprise

Oates, T. K.....Martinsburg
Oesterling. H. E.....Wheeling
Offner, J. E.....Fairmont
Ogden, C. R.....Clarksburg
Ogden, G. R.....Flemington
Ogden, W. C.....Fairmont
O'Grady. C. O.....Charleston
Oliver, J. H. .....Bedington
O'Roark, G. B.....Grayson, Ky.
Osburn, J. J.....Wheeling
Osburn, Howard .....Rippon
Osburn, J. Nelson ....Martinsburg
Osburn, R. L.....Clarksburg
Owens, Wm. T.....Mt. Clair
Owens, H. K.....Elkins
Oyster, L. C.....Lumberport

Paden, W. S.....Parkersburg
Page, J. R.....Thornwood
Palmer, Joseph .....Wellsburg
Parker, Wellington ....Lewisburg
Parsons, A. L.....Hanna
Parsons, E. H.....Piedmont
Patterson. R. W.....Beckley
Pauley, D. F.....Jeffrey
Pearcy, C. L.....Blandville
Peck, C. R.....Harrison
Peck, D. C.....Grafton
Peck, J. C.....Moundsville
Peck, Nelson .....Clarksburg
Peck, S. P.....Hinton
Peck, W. L. .....Switchback
Pennypacker, Viola L..Huntington
Pepper, R. H.....Huntington
Peery, T. E.....Bluefield
Perry, O. L.....Elkins
Perry, W. E.....Hall Town
Peters, A. L.....Fairmont
Petry, B. L.....Dorothy
Peters, C. C. .....Princeton
Peters, E. F.....Switchback
Petrey, H. H.....Lawson
Phillips, F. M.....Charles Town
Philips, S. H.....St. Albans
Pickering, W. D.....Lone Cedar
Pittman, J. J.....Charles Town
Plant, E. B.....Wheeling
Poole, A. .....West Union
Post, A. T. .....Clarksburg
Post, C. O.....Clarksburg
Post, S. H. .....Lost Creek
Post, W. H.....Masontown
Posten, S. J.....Morgantown
Powell, H. C.....Morgantown
Powell, R. H.....Grafton
Pratt, S. A.....Kingwood
Preston, B. S.....Charleston
Preston. D. G.....Burnwell
Price, H. D.....Parkersburg
Price, R. C.....Morgantown
Price, N. R.....Marlinton
Price, S. W.....Searbro
Price, W. H.....Chattaroy
Pritchard. C. C.....Huntington
Prickett, I. T.....Parkersburg
Putney. Jas. .....Charleston
Pyle, J. L.....Chester

Quaintance, R. W.....Rend
Quensberry. G. O.....Hinton
Quimby, W. A.....Wheeling

Quinn, J. M.....Princeton

Rader, J. E. .....Huntington
Ramage, C. R.....Fairmont
Rankin, B. S.....Tunnelton
Ransen, B. B.....Harpers Ferry
Raphel, E. F.....Keyser
Ray, C. A. .....Leewood
Reece, W. S.....Beale
Reed, B. J.....Red Jacket
Reed, R. J. .....Wheeling
Regar, R. A.....Buckhannon
Reger, C. N.....Roanoke
Reid, A. M.....Charleston
Riely, J. V.....Monongab
Reppard, M. M.....Middlebourne
Rexroad, C. W.....Harrisville
Reyburn, J. A.....Ravenswood
Richardson, A. S.....O'Keeffe
Richmond, B. B.....Marting
Richter, O. F., White Sulphur Sps.
Rickey, J. W. .....Moundsville
Ridley, F. T.....Bluefield
Riffe, J. A.....Fire Creek
Riggs, C. W.....Cameron
Riley, R. M.....Henry
Rife J. W.....Kenova
Robbins, J. E.....Charleston
Robertson, G. C.....Clendenin
Robertson, H. T.....Charleston
Robertson, W. S.....Charleston
Robinson, B. O.....Clarksburg
Rodgers, G. G.....Elkins
Rogers, J. G.....Cairo
Rogers, R. O. .....Crystal
Roles, J. E.....Union
Roller, R. D.....Eccles
Rose, E. E.....Hinton
Rose, L. O.....Parkersburg
Round, F. L.....Davy
Rowsey, J. H.....Huntington
Ruble, A. F.....Elm Grove
Rudasill, D. J.....Kingwood
Rupert, L. B.....Nuttalburg
Rupert, L. D. .....Frankford
Rumisell, C. C.....Gassaway
Rusmisell, S., C.....Buckhannon
Rutherford, A. G.....Thacker
Rymer, H. M.....Harrisville

Sager, W. B.....Davis
Salton, R. A.....Big Sandy
Sameth, J. L.....Welch
Sammons, W. P.....Calis
Sampson, W. H.....Beckley
Sands, W. H.....Fairmont
Sanns, H. V.....LeSage
Sarver, H. C.....Charleston
Schoolfield, G. C.....Charleston
Schulz, J. C.....Huntington
Schwinn, J. .....Wheeling
Scott, B. F.....Terra Alta
Scott, C. J.....Parkersburg
Scott, C. M.....Bluefield
Scott, D. P.....Ashland
Shafer, C. F.....Grafton
Shaffer, E. E.....Huntington
Shaffer, J. S.....Cannelton
Shanklin, R. V.....Gary
Sharp, J. T. .....Charleston
Sharp, W. H. .....Parkersburg
Shawkey, A. A.....Charleston
Shepherd, W. S.....Slab Fork
Sheppard, J. M...Falls Mills, Va.
Shields, T. K.....Triadelphia
Shipper, J. H.....Gerrardstown
Shirkey, C. P.....Lumberport
Shirkey, D. W.....Montgomery
Shirkey, W. F.....Malden
Shuey, W. A.....Piedmont
Shull, J. W.....Romney
Shuttleworth, B. F.....Clarksburg
Simons, J. B.....Buckhannon
Simpson, J. N.....Morgantown
Sincindiver, E. L.....Martinsburg
Sinsel, C. A.....Grafton
Sisler, F. H.....Sun
Sites, J. McK. .....Martinsburg
Skaggs, H. C.....Kaymoor
Skinner, C. L.....Charles Town
Slater, C. N.....Clarksburg
Slater, S. D.....Oil City, Pa.
Sloan, H. E.....Clarksburg
Slusher, W. C.....Bluefield
Smith, A. W.....Farmington
Smith, E. P.....Barracksville
Smith, E. W.....Bluefield
Smith, G W.....Sprigg
Smith, Isaac .....Peel Tree
Smith, J. W. R.....Academy
Smith, L. S.....Monongah
Smith, W. J. .....Williamson
Smoot, E. W.....Madison
Snodgrass, F. P.....Tariff
Snuffer, D. W.....Beckley
Snyder, Geo. .....Weston
Soles, J. R.....Benwood
Salter, H. C.....Huntington
Sowers, M. L.....Bluefield
Spangler, A. M.....Pageton
Sperow, Clifford .....Martinsburg
Spillman, J. W .....Wheeling
Sponceller, G. J. E...Martinsburg
Spragg, S. L. S.....Wheeling
Staats, O. M.....Wheeling
Staton, W. A. ..... Peytona
St. Clair, C. T.....Bluefield
St. Clair, W. H.....Bluefield
Steere, D. Q.....St. Marys
Steele, H. G.....Bluefield
Steele, L. E.....Logan
Steele, S. M.....Weston
Steele, W. S.....Spanishburg
Steinbeck, Karl .....Parkersburg
Steenbergen, J. H.....Huntington
Stigers, P. E.....Hancock, Md.
Stille, W. S.....Parkersburg
Stiltner, H. F.....Baileysville
Stone, Marion R.....Parkersburg
Stone, S. M.....Tomsburg
Stout, H. B.....Parkersburg
Strachan, Hugh.....Blaine
Strickler, E. W.....Fairmont
Strother, I. W.....Belington
Strother, W. .....Salem
Sturdivant, B. B.....Harding
Suddarth, F. S.....Grafton
Sutherland, J. H.....St. Albans
Swimley, G. W.....Bunker Hill
Swann, P. H.....Huntington
Tabor, M. H.....McDowell
Tanner, E. M.....Bramwell
Talbott, W. E.....Harrisville

Taylor, D. H.....Wheeling
Taylor, E. H.....Morgantown
Taylor, C. T.....Huntington
Taylor, I. W.....Mt. Calm
Teter, J. M.....Riverton
Thomas, G. H.....Romney
Thompson, E. H.....Bluefield
Thornburg, J. W.....Man
Thornton, D. H.....Princeton
Thornton, J. T.....Wheeling
Tieche, A. U.....Welch
Todd, G. L.....Princeton
Talbott, L. W.....Elkins
Tompkins, W. W.....Charleston
Tonkins, H. G.....Martinsburg
Tooley, G. W.....Huntington
Trach, J. M.....Farmington
Trimble, Staunton .....Orlando
Triplett, W. H.....Thacker
Truschel, C. M.....Wheeling
Tuckwiler, J. R.....Baxter
Turner, Jas. .....Borderland
Turk, H. A.....Newell
Tutwiler, H. L.....Roderfield
Tyree, J. A. .....Page

Umbarger, C. E.....Blakely

Vandine, A. C.....Clendenin
Vaughn, R. R.....Holden
Varner, H. V.....Clarksburg
Varner, S. W.....Kingwood
Venning, R. E.....Charles Town
Vermillion, E. E.....Athens
Vermillion, J. R.....Princeton
Vermillion, Uriah .....Oakvale
Vick, C. W.....Gary
Vinson, I. T.....Huntington

Waddell, C. W.....Fairmont
Wade, S. S.....Morgantown
Walden, J. G.....Wheeling
Walker, Everett .....Tunnelton
Walker, J. W.....Winona
Walker, S. P.....Oceana
Walker, W. J.....Mabscott
Walkinshaw, J. B.....Wellsburg
Wallingford, W. W.....Princeton
Ward, E. A.....Hedgesville
Warner, C. H.....Cherry Run
Warden, A. R.....Grafton
Warder, A. S., Jr.....Grafton
Warder, J. I.....Weston
Warnock, C. W.....Huntington
Watts, A. J.....Huntington
Watts, C. N.....Charleston
Watts, T. H.....Elbert
Webb, J. W.....Sardis
Webb, W. S.....Warwood
Wehner, E. F.....Clarksburg
Weirich, C. R.....Wellsburg
Weirich, T. H.....Wellsburg
Weldon, L. L.....Charleston
Wentz, G. W.....Chester
Werner, Harry.....Thomas
West, H. S.....McMechen
Wheeler, B. B.....McKendree
Wheeler, G. B.....McKendree
Whelan, M. E.....Roanoke
Whisler, A. H.....Wallace
Whisler, H. C.....Smithfield
White, C. E.....Buckhannon
White, G. R.....Barboursville
White, I. C.....Smithville
White, T. W.....Coalwood
Whittico, J. W.....Williamson
Whitescarver, J. S.....Grafton
Whitman, W. R.....Roanoke, Va.
Wilcox, J. F.....Marmet
Wilkinson, C. E.....Bruceton Mills
Williams, C. B.....Philippi
Williams, J. F.....Clarksburg
Williams, L. A.....Huntington
Willis, C. A.....Clarksburg
Willis, E. Y.....Montgomery
Wilson, Andrew .....Wheeling
Wilson, E. A.....Salem
Wilson, E. K.....Romney
Wilson, I. E.....Clarksburg
Wilson, J. B.....Pennsboro
Wilson, L. D.....Wheeling
Wilson, T. L.....Piedmont
Wilson, T. M.....Elkins
Wilson, W. B.....Charleston
Wilson, W. C. Q.....Mannington
Wilson, H. H.....St. Albans
Weinberger, A. V.....Wheeling
Winfield, J. B.....Clarksburg
Wingerter, C. A.....Wheeling
Wise, S. H. D.....Parkersburg
Womack, J. E.....St. Marys
Wood, A. D.....Bluefield
Woodford, A. H.....Belington
Woodville, J. B.....Fayette
Woofter, A. I.....Weston
Wright, M. F.....Burlington
Wriston, Robert.....Beckley
Wyatt, G. L., White Sulphur Springs
Wykel, W. A.....Hinton

Yeakley, W. H.....Keyser
York, W. F.....Huntington
Yokum, H.....Beverly
Yost, Guy .....Huntington
Yost, H. S.....Fairmont
Yost, L. N.....Fairmont
Young, H. H.....Charleston
Young W. H.....Sistersville

Total, 900.

The West Virginia Medical Journal

Published Monthly
by
The W. Va. State Medical Association

Under the Direction
of the
Committee on Publication.

COMMITTEE ON PUBLICATION:
S. L. JEPSON, Chairman.
L. D. WILSON. G. D. LIND. C. A. WINGERTER.

Entered as second-class matter August 10, 1906, at the Post Office at Wheeling, W. Va.

Vol. 8—No. 9. WHEELING, W. VA., MARCH, 1914 Subscription Price $1.00 per Year Single Copies 15 Cents.

Original Articles

ETIOLOGY AND CLASSIFICATION OF RHEUMATISM.

O. F. Covert, M.D., Moundsville, W. Va.

(Read at Annual Meeting of State Medical Ass'n, May, 1913.)

This paper had its inception in the fall of 1911, when I was in Chicago following the work of John B. Murphy at Mercy Hospital, and is due to a remark he frequently made: "We know what rheumatism is, we have definitely and finally settled that question; it is a metastatic arthritis and the atrium of infection can almost always be demonstrated." I then decided to reread the whole subject, draw on my experience, and try to find out how far that statement was in accord with statements of other writers, and if that dictum could be accepted as final.

This paper will deal with the classification and etiology of rheumatism. We shall make a little review of the literature and try to decide if there is such a disease as rheumatism, and if so, what it is and what it is not, and to what it is due. If we can do that, we can lay a rational foundation for treatment.

Is rheumatism simply a synonym for arthritis, and are the apparent varieties simply differences in severity, or varieties of manifestations such as any disease may show? Or has it a wider significance? Is it a constitutional disease having a selective affinity for serous surfaces, affecting most often the joints, but with the possibility of affecting any serous surface, the pleura, the peri and endocardium, the peritoneum? Or does it go farther and attack connective tissue, so making both articular rheumatism and muscular rheumatism perfectly rational diagnoses? If there is such a disease, to what is it due? Is it purely an infection? If so, what is the infecting agent? Do we have one infective agent producing various manifestations, or do we have various infective agents producing the same disease? Or are toxins of one or various sorts concerned in the pathogenesis? Does one toxin produce the disease or are several involved? Do toxins alone produce the disease or do they combine with the infective (bacterial) agents? If toxins are etiologic factors are they endogenous or exogenous, are they elaborated within the body, or are they introduced from without? Also, is there one distinct disease, entitled to be called rheumatism? If so, what are we to do with other conditions that have been and are still called rheumatism? Or are there several kinds of rheumatism, and if so, are they all due to one cause, or does each variety have a cause of its own? The joints are commonly regarded as being the seat of the rheumatic process, but if the pericardium, endocardium, pleura or meninges are synchronously involved, should the process be regarded as rheumatic? And if these structures are involved independently of the joints, should we regard them as rheumatic?

These are some of the questions that crowd forward for solution.

Ballonius is supposed to have introduced the word rheumatism into the medical literature in 1642. It is from rheum, a flux or a flow, and had its origin because

the painful disorders to which it was applied were supposed to be caused by noxious materials flowing from the brain to the painful areas.

We shall not study the theories of the remote past but examine some of the immediate present. We shall see that the views concerning the etiology and classification of rheumatism have entirely changed in the past fifty years, and we shall also see that the matter is not yet definitely settled.

Niemeyer in his *Pathologic Interne*, written about 1865, has a section which he call *maladies du mouvement*. In the introduction he says:

"In this section we shall describe for the gaining of a general idea, all the diseases of the articulations of the bones, and of the muscles, which enter into the domain of internal pathology, either as these diseases manifest themselves as idiopathic affections of the organs under consideration or as they are the most salient symptoms of a general disease, of a cachexia or a dyscrasia;."

Under this section (*Maladies du mouvement*) he groups the following diseases: Acute Articular rheumatism, (2) Chronic Articular rheumatism, (3) Arthritis Deformans, (4) Muscular rheumatism, (5) Gout, (6) Rachitis, (7) Osteomalacia, (8) Progressive Muscular atrophy. As to rheumatism, he says it occurs in fibrous tissue, joints, aponeuroses, tendon sheaths, neurilemma, periosteum, muscles and tendons.

Watson in his lecture delivered in King's College, London, about 1855, says of rheumatism:

Rheumatism implies inflammation, but it is an inflammation of a peculiar or specific kind, it is inflammation of a particular tissue, the fibrous tissue; and it may therefore manifest itself wherever that tissue is employed in the fabric of the body. No doubt the inflammation does involve other tissues of the body also; but it is always probably, by extending to them through what has been called contiguous sympathy. Thus we have the synovial membrane of the joint inflamed in many cases, the inflammation having spread from the fibrous tissue around the joint. It most commonly seizes on the fibrous tissue that lies around the larger joints, ligaments and tendons; and in this respect you may almost consider the perpetually moving heart as one of the large joints. Yet it is not common inflammation, it does not cause the effusion of plastic lymph, suppuration or gangrene.

He says of acute rheumatism that it is a blood disease. The circulating blood carries with it a poisonous material, which, by virtue of some mutual or elective affinity, falls upon the fibrous tissue, in particular, visiting and quitting them with a variableness that resembles caprice, but is ruled no doubt by definite laws to us as yet unknown. The poison is probably a product of unhealthy assimilation. Two varieties have been made of acute rheumatism, one fibrous or diffused, the other synovial rheumatism.

He also treats of chronic rheumatism, and says there are two kinds, one attended with local heat and swelling, although the constitution at large sympathizes very little or not at all with the topical inflammation. The other characterized by coldness and stiffness of the joints.

Bristowe, writing in 1876, follows Watson largely, but throws some doubt on the etiology. He says "the term rheumatism is somewhat vaguely applied to all inflammations or painful affections of the fibrous and muscular tissue which are not clearly referable to injury, gout, pyemia, or any other well recognized specific disease." As to the etiology, he says:

"Is it a local constitutional disease? Does it depend on the presence of some specific poison circulation in the blood, on the action of the blood vessels, on the action of the vaso-motor nerves or what? It seems there is little or nothing in rheumatism, in respect of its proximate cause, to distinguish it from pneumonia, bronchitis, nephritis, erysipelas, or other example of local inflammation, caused by exposure to cold or other cognate conditions. If these be constitutional diseases, so is rheumatism, if they be local diseases, rheumatism is in the same sense, a local disease, a disease, that is to say, involving a special tissue, which, however, happens to be distributed largely throughout the system."

Coming down about fifteen years to *Osler's Practice of Medicine*, edition of 1892, we find the author considers rheumatism as a constitutional disease, but suggests the possibility of its being of bacterial origin. Under the heading, "Constitutional Diseases," he groups rheumatic fever, chronic rheumatism, arthritis deformans, gout, diabetes insipidus, rickets, scurvy and purpura. As to the cause of rheumatism, he says the essential cause is still unknown. There are three chief theories.

(1) Metabolic; that it depends on a morbid material, produced within the body in defective assimilation.

(2) The nervous theory. According to this theory, the nerve centers are primarily affected by cold, and the local lesions

are really trophic in character, or the primary nervous disturbance, leads to errors in metabolism and the accumulation of lactic acid in the system.

(3) The germ theory: According to this theory the arthritis is due to a specific microbe. In favor of this view may be mentioned the close analogy which exists between rheumatism and certain of the infectious diseases. The analogy is marked with gonorrhea, scarlet fever and septic processes which are frequently associated with arthritis and endocarditis. We see, therefore, that the universal opinion fifty or sixty years ago was that rheumatism was an inflammation of a specific or peculiar sort and involved fibrous tissue specifically, or at least primarily. Some twenty-five or thirty years ago the suggestion began to be made that rheumatism might be an infective disease, and that idea has steadily grown as regards acute rheumatism, but does not so easily apply to the variety of pathological conditions which are grouped under the term chronic or some synonym.

Most recent authors treat of two varieties of rheumatism, one, the acute, is pretty generally accepted. As to the other variety, there is not unanimity as to the nomenclature or delimitations. Various names are applied, as chronic rheumatism, chronic articular rheumatism, chronic polyarthritis, rheumatoid arthritis, arthritis deformans, rheumatic gout, osteoarthritis, chronic arthritis.

Modern Clinical Medicine, which is the English translation of **Die Deutsche Klinik,** 1909, calls the acute form acute articular rheumatism and classifies it under infectious diseases along with typhoid fever, measles, erysipelas, pneumonia, tuberculosis, cholera, sepsis, etc.

Osler's Modern Medicine calls the disease acute rheumatism, or rheumatic fever, and also classifies it under infectious diseases.

On the other hand, Dieulefoy, 1912, does not follow this classification, but groups all forms of rheumatism under the heading, Rheumatic and Dystrophic Diseases, and puts it in the same class with gout, diabetes mellitus, diabetes insipidus, obesity, diffuse symmetrical lipomatosis, adiposis doloroso, myxedema and scrofula.

He subdivides rheumatism into acute articular rheumatism, chronic rheumatism, pseudo-rheumatism or infective rheumatism, which occurs in blennorhagia, scarlatina, puerpural conditions, erysipelas, mumps, pneumonia, etc.

At this place I shall take up modern views of chronic rheumatism, or its synonyms from the standpoint of classification and etiology. His writing in *Modern Clinical Medicine* calls it chronic articular rheumatism, classifies it under diseases of metabolism, and groups it with diabetes mellitus, diabetes insipidus, gout, obesity and myxedema, Addison's disease and acromegaly and pentosuria. He says the disease was familiar to the ancients who confounded it with gout, and designated it by the collective term arthritis.

There is, he says, a variety of views as to the etiology. According to some authors, chronic rheumatism is an infectious disease, in which there can invariably be demonstrated certain micro-organisms. To others, the disease is the expression of a constitutional anomaly, which is markedly hereditary. Other writers believe that the affection is in the main a local process confined to the joints and periarticular tissues. Finally there are some who consider it a disease of the central nervous system. It is not clear whether the affection begins in the cartilage of the joint or in the synovial membrane.

Osler's Modern Medicine does not treat of chronic rheumatism, but McCrae, under arthritis deformans, gives some consideration to the entire subject of arthritis. He would divide arthritis into two classes: 1st, those forms in which an etiologic factor can be demonstrated with reasonable positiveness, and 2nd, those forms in which no etiologic factor can be demonstrated definitely. The first class is not considered as having any relationship to rheumatism, except in the similarity of clinical signs and symptoms. The first class is subdivided under seven heads on an etiological basis. They are as follows:

1. Traumatic Arthritis.
2. Arthritis due to infection with definite bacteria, infectious arthritis, rheumatic fever.
3. Arthritis occurring with certain diseases, as syphilis, scarlet fever, etc.
4. Gout.
5. Arthritis due to the injection of certain sera, as diphtheria antitoxin.
6. Arthritis secondary to diseases of the nervous system, as locomotar ataxia and syringomyelia.
7. Arthritis in hemophilia, purpura, etc.

But there still remain many cases that

can not be classed under any of these heads, those for which no definite etiology can be found, and this heterogeneous class McCrae calls arthritis deformans, which is practically the same as chronic rheumatism of other authors, and classifies under diseases of obscure origin with Hodgins' disease, osteomalacia and adiposis dolorosa. While no definite etiology can be demonstrated for arthritis deformans, several theories have been suggested, (1) an inherited arthritic diathesis; (2) a special kind of degeneration; (3) an inflammatory process; (4) disturbed nutrition; (5) of essential nervous origin; (6) due to injury; (7) reflex irritation; (8) disease of a supposed joint center; (9) some form of infection. But theories are as far as we can get at present.

I wish now to consider somewhat in detail, acute rheumatism or rheumatic fever, as to etiology and classification. We are more likely to arrive at some definite conclusion concerning it than with the chronic form.

Baumler, writing in *Modern Clinical Medicine*, says that acute articular rheumatism has much similarity to and some connection with other diseases which certainly are due to infection, i.e., are produced by the entrance of bacteria into the body. The endeavors to describe a specific pathogenic agent in acute articular rheumatism have as yet not been decided with definiteness. Different bacteria have been found in the cadaver, in endocardial proliferations, synovial membranes of inflamed joints, in the living body, only in rare instances in the blood, very rarely in synovial fluid. In the greatest majority of cases cocci were found, especially staphylococcus albus and citreus. The comparatively benign character of the inflammation permits the view that in acute articular inflammation the affection depends on the action of bacteria of attenuated virulence. According to this view, acute articular rheumatism would belong to the group of septic diseases, but it would represent a benign form of the same. The connection of tonsillitis with rheumatism seems to support this view, but any other part of the body that is in connection with the external air, also the intestines and the urogenital apparatus, might form the port of entrance for the virus. The simultaneous appearance of the inflammation of many joints, would point to the fact that for a longer period numerous bacteria had been circulating in the blood stream, and had reached the synovial membranes of the joints, and been deposited there, whereas in other forms of articular inflammation, which ought to be looked upon as metastatic, pyemia, gonorrhea, etc., in which at the time only one or a few joints are affected, these inflammations would be due to a sudden immigration of the bacteria from a primary bacterial focus to the joint in question.

Poynton, writing in *Osler's Modern Medicine*, says that rheumatism is a systemic disease, and not simply a form of arthritis. There are several theories of causation, among which are cold, of nervous origin, the presence of uric and lactic acid in the blood, and infection.

There are four theories of infection:

(1) That there is no specific micro-organism, but the disease is a form of septicaemia which owes its origin to a staphyloccal or streptococcal infection.

(2) That the disease is due to a specific bacillus.

(3) That the micro-organism is a diplococcus.

(4) That the exciting cause is as yet unknown.

The author believes it to be due to a specific micrococcus, the diplococcus rheumaticus, which is a small coccus 0.5 microns in diameter and usually grows in pairs or in short chains. As a rule it does not show a capsule, but there is reason to believe that in the human tissues the appearance of capsulation may occusionally be found. It stains readily with anilin dyes, is Gram positive, but not with tenacity, and has the power of producing acid to a marked degree.

In the *Journal A. M. A.*, April 19, 1913, Rosenow makes a report of some work done at the Memorial Institute for Infectious Diseases, Chicago. He states that organisms corresponding closely to the diplococcus rheumaticus, have been isolated from one or more joints in seven of eight cases of acute articular rheumatism in the early stages. Blood cultures were made in four cases and gave positive results in two. Cultures from the tonsils gave positive results in two. Two of the patients had marked pain in the muscles.

especially about the shoulders, neck and back, and in the more tendinous portions of the muscles of the extremities. Experiments on rabbits, guinea pigs, white rats and dogs, show that the cultures are of relatively low virulence; they are more virulent than the streptococcus viridans but less virulent than hemolytic streptococci and the pneumococci. The results of injection in the ear vein in rabbits are very striking. Multiple non-suppurative arthritis, endocarditis, and myocarditis have been obtained repeatedly in the same animal. The lesions of the joints are chiefly periarticular. Suppuration did not develop with the freshly isolated strains, but after passing through animals, abscesses about the joints sometimes developed. By animal passage and other means, three of the strains from acute rheumatism were converted into typical hemolytic streptococci on the one hand and pneumococci on the other. During the transition stages a strain (from a joint) lost much of its affinity for pericardium, endocardium, and articular tissues, but acquired a pronounced affinity for myocardium, skeletal muscles and kidney, producing now a non-suppurating myocarditis, and myositis and an acute nephritis.

The lesions in the skeletal muscles were obtained in twelve rabbits three dogs and a monkey. Similar lesions of muscles were obtained also with strains of joints of two cases, in which muscular involvement was present, and with four strains of non-virulent streptococci which had passed through many animals at the time, and which resembled the rheumatism strain very much at the time.

John B. Murphy in his monograph, "Contributions to the surgery of joints, bones and tendons," issued this year, says:

"It is my conviction that every type of non traumatic joint inflammation is a metastatic manifestation of a primary infection in some other part of the body. It is my further conviction that there is no idiopathic rheumatic arthritis any more than there is an idiopathic peritonitis. The term rheumatism should be expunged from medical literature and a name given to indicate in itself at least some of the pathologic or etiologic elements in the joints. I prefer the term, metastatic arthritis."

He believes every form of arthritis, including acute articular rheumatism, is due to infection, a variety of bacteria and derived from various atria being causative; that the arthritis that is initiated with a chill involves one or two joints, and ends in ankylosis unless properly treated is due to infection with virulent pyogenic bacteria, metastatic from acute varieties of infections, as acute pharyngitis, tonsillitis, genito-urinary disorders, etc., that the polyarticular type is due to milder forms of microbic infections, diplococcus rheumaticus, etc., and ends in resolution and recovery in six or eight weeks; that the fibroid, cicatrizing and contracting varieties of arthritis are from the lower types of infection of large intestine, gall bladder, etc., and usually by the organism of the colon type; that rheumatoid joints or arthritis deformans are due to chronic affections of the alveolar processes, paranasal sinuses, genitalia, sigmoid, etc.

Now from this mass of varying opinions are we able to decide whether we have such a thing as rheumatism or not? Should we expunge the word from medical literature or not? If we retain it, can we arrive at some definite and rational conclusions as to what we mean when we tell a patient he has rheumatism, or what he means when he tells us he has it? It seems to me we are not ready to expunge the word from medical literature. I doubt if we would simplify matters very much. Better bear the ills we have than fly to those we know not of.

The term is an old and honorable one, is firmly grounded in medical literature, has a pretty definite meaning to the physician, at least from a symptomatic standpoint, and is well if unfavorably known to the laity. The term has of course lost its original meaning and is used empirically to include a number of diverse conditions, that have only one positive point of similarity—pain. Yet the conditions remain even if the name is banished, and I doubt if it would be possible to devise any term or terms that would define all of them from a anatomico-pathogenic standpoint. It is admitted that arthritis could be applied to most cases of acute rheumatism, and would be a more graphic term, but there are some variations and complications that could not be comprehended under the term without reservations or additions, and while the term arthritis would denote the anatomy of the disease, it would indicate nothing etiologically.

But if the term rheumatism is to be retained and used, it should not be used indiscriminately and loosely to cover all sorts of painful conditions of the body as is so frequently done at the present time. The physician should realize that it is used in a symptomatic as well as an etiologic sense. And while in our present state of knowledge the term will be made to cover a variety of conditions, having pain as a common symptom, yet the physician should as nearly as possible know the condition present, and treat it and not merely prescribe at the word rheumatism.

In working up a diagnosis, it is well to think of the condition as primarily an arthritis, and first we can make a pretty clear distinction between the acute and chronic forms. If we can put it in the acute category, we can pretty positively decide that we are dealing with an infection, and before making a diagnosis of rheumatism all those forms of arthritis having a distinct etiology, and clinical picture, should be eliminated. If an accompaniment of gonorrhea it is almost positively a gonorrheal arthritis; if initiated with a chill and confined to one or two joints, it is a suppurative arthritis due to virulent-pyogenic bacteria, etc. But after all these are eliminated there still remains a disease with a pretty distinct clinical picture, marked by pain, polyarticular and shifting in character, marked by swelling and tenderness not only of the joints but of the tissues around the joints, having a variable temperature, showing rather marked constitutional symptoms, marked prostration, sweating, rather rapidly developing anaemia, running a pretty definite course of from four to eight weeks, ending in complete or partial recovery, usually without deformity or limitation of motion, and frequently involving serous tissues outside the joints, particularly the heart. It seems desirable that to this condition the term rheumatism should be applied, calling it acute rheumatism, acute articular rheumatism, or rheumatic fever as one's fancy dictates. This form is almost as surely infectious in origin as the cognate arthritides. Although in many cases bacteria are not found in the effusion it is probable they are present in the tissues or have been present in the effusion and destroyed by phagocytosis. While no one form of bacteria has been demonstrated as being etiologic, it is probable they are cocci either of the simple or diplo type. Rosenow's experiment seems to show that a metamorphosis takes places, the bacteria sometimes growing as a streptococcus and at others a diplococcus rheumaticus or pneumococcus. His experiments would make rational the diagnosis of muscular rheumatism and would point the etiology of the same.

Coming now to the chronic side, we have a lot of loosely related phenomena, having one symptom in common, pain, which have been and are also at present, frequently rheumatism. We can divide these into two general classes:

(1) Those in which the pain and disability are of arthritic origin.

(2) Those in which the pain and disability are apparently muscular in origin, so-called muscular rheumatism.

These may also, as in the acute type, be due to bacterial infection as claimed by Murphy, but that does not seem capable of demonstration, so in disposing of the arthritic group, I like in the main the plan of McCrae heretofore referred to. He makes the diagnosis practically by exclusion, putting under its proper heading all those cases of arthritis for which positive etiologic factors can be demonstrated. In this way he eliminates arthritis due to trauma, gout, syphilis and parasyphilitic affections, diseases of the nervous system, those due to hemophilia, purpura etc. Yet when all this is done there still remain many cases unclassified. McCrae calls this etiologically unclassified group arthritis deformans, and places it under diseases of obscure origin. It might just as well be called chronic articular rheumatism, and would probably find wider acceptance among physicians.

There is much confusion, though, among writers and necessarily so among physicians in general. McCrae, for instance, places this group under diseases of obscure origin. His places it under diseases due to disorders of metabolism, and Murphy, under metastatic arthritis and of bacterial origin. Time and the future must solve some of the problems still unsolved.

There is also a class of patients coming to us with pain and stiffness in various parts of the body, back, shoulders, arms,

legs, neck, etc., asking for diagnosis and relief. The joints are not especially tender, nor is there much limitation of movement, and the pain seems to be located in the soft tissues. What is the diagnosis, and what is the etiology? This group also undoubtedly comprises various etiologic factors. The physician is possibly justified in making a diagnosis of muscular rheumatism, because it is the easiest way out, and would save many laborious and useless explanations. But he should realize that the diagnosis is purely a symptomatic one and does not in any way indicate the line of treatment to be followed. The etiologic factor in each case should be determined if possible, and a treatment based on that. Sometimes one will find the pain is due to overwork, a case of muscle tire, sometimes due to refrigeration, and possibly an actual inflammatory process may be present. Sometimes it is a referred pain, and neuralgic in character. But there will remain many cases that will not fall into any of these classes, and which we will have to consider as being toxic in origin, and place them as we do the arthritic cases, under diseases of obscure origin, or under diseases due to errors of metabolism.

So by analogy we can probably infer that pains in the soft tissues, chronic in character, are due to toxins due to faulty digestion, or faulty metabolic processes.

MEDICAL NOTES ON A CENTRAL AMERICAN TRIP.

J. E. Cannaday, M.D., Charleston, W. Va.

(Read before the Kanawha Co. Med. Soc.)

Nowadays Americans are prone to go to Europe when in quest of travel, recreation and change, but I venture to predict that in the near future a great tide of travel to Central America for the dweller in temperate zones. A trip to the tropics is full of newness and novelty. All the conditions of growth laid down by the bacteriologist, warmth, food and moisture universally prevail, therefore air, earth and water teem with life; the fecundity of nature is astonishing. Each of the animal and vegetable kingdoms has its countless myriads, the one preying on the other. Life is short and full. The colors are keener, more clearly cut and more vivid than with us. The intense blaze of tropical sunlight sharpens all contrasts and accentuates strongly all colors. The nights are full of brilliancy, and one can easily believe that the moon is a world and that the stars are suns. The sea, when agitated by the oars of a boat or the propeller of a ship, gives off a brilliantly luminous sheen, as if liquid phosphorus.

Contrary to the usual opinion, the heat is quite bearable. The maximum temperature in the shade at noon usually does not go over 85° F. and at night drops to about 70° F. When at all near the ocean the heat is tempered by the sea breeze, while inland among the mountains it is cool at night by reason of the elevation.

As a rule the people are shiftless and there is a great deal of poverty, but, as Mr. Post says, there's a reason for this. The climate saps one's nerve and energy. You readily fall in with the Spanish manana. Food is provided by the bountifulness of nature. No one need go hungry. Save for a storm, clothing is not needed and the only protection needed against the weather is a good roof against the rain.

An Indian will build himself a perfectly good palm thatched house in a week that will last him and his family for years. It is said that with one month's work in a year, a native and his family may have all the necessaries of life.

We took a coast-wise freight and passenger carrying steamer, which touched at the following ports, spending two days in each place: Belize, British Honduras, Puerto Barrios, Guatemala, Puerto Cortez, Spanish Honduras, Port Limon, Costa Rica and Colon, Panama. This gave us an opportunity to visit hospitals and medical men as well as make side trips or visits into the interior at each place.

At Belize the large municipal hospital is under the management of a half-blood Jamaican negro, Dr. Harrison, who also looks after four other hospitals of British Honduras.

England looks carefully after the health of her people here as in several other ports. We heard a great many stories about the celebrated Dr. Nicholas Senn, who visited these countries a few years before his death. We were greatly im-

pressed with his keen knowledge of human nature and his ability to make fast friends of those he came in contact with. Hunting seems to have been a ruling passion with him.

In each one of these countries, the United Fruit Company has established almost feudal strongholds for the exploitation of the banana business. As a rule they have a hospital in each port and take a great interest in the sanitation of the farms. This is a very vital matter to them, as a banana ship coming from an infected port would be held in quarantine and the cargo badly damaged, if not totally ruined.

Panama is the place par excellence to get Mosquitology. Uncle Sam's doctors know mosquitoes like the Jewish Rabbi does the psalms, backwards, forwards and cross-ways. They have exploded a number of our pet theories. They are going to write the life history of this lively pest anew. They have established records of a mile in 12 hours. They have enticed mosquitoes into traps by the lure of a negro man, spraying them with eosin for purposes of identification, then liberating them and discovering the same malaria carrier a mile distant the following night. Since the female mosquito lives for an even month and requires blood every other night, this malaria proposition is fraught with interesting possibilities. So far the yellow fever mosquito has not manifested traveling tendencies, but is a home body and is quite content to hang around his own rainwater barrel, and bite the same people night after night. During the French occupation there was one hotel near the heart of Panama City at which every stranger, not immune, was infected.

To sanitate Colon, Panama City and the Canal Zone has cost a vast sum, but without this sanitation we should have been as powerless to build the canal as the French were before us. The foreign cemetery eloquently testifies how the best blood and brains of France fought, suffered and died in a hopeless but unequal struggle.

The building of the Panama Railway in the period about 1850 is an example of the gigantic obstacles nature can throw in the way of engineering work. Approximately fifty miles of railway were ten years in building. The mortality among the workmen was so great that it is said that every tie represented a human life. Part of the old road passed through the celebrated Gatun Swamp, now an artificial lake. Many parts of this morass may for practical purposes be said to be bottomless. In many places four lengths of steel rails joined together were let down in this mud without touching bottom An engine or flat car getting off the track has been known to sink out of sight in 15 minutes. Through much of this swamp the original road was floated on a sort of pontoon. Piles were driven in the mud, then transverse timbers were interlaced among them, and the railroad built on these. This road was, and is now, one of the best paying roads in the world, paying 20% on the investment for many years. Originally the fare for a first-class passenger was $25.00, and for walking over the right-of-way the charge was $10.00. As there was no other road this was often paid.

The Canal Zone strip is well equipped with hospitals. At Colon there is a hospital of 800 beds, while at Ancon, just north of Spanish Panama, there is a large pavilion hospital of 1200 beds. This hospital was built by the French. In fact, most of the buildings at Ancon were built by them.

We met the chief surgeon of the Colon hospital, Dr. Noland. He is an aggressive young Virginian and has recently reported 250 cases of Whitehead's operation for hemorrhoids. The chief surgeon of the Ancon hospital is Dr. Herrick of Johns Hopkins. We saw him doing some interesting emergency work. I noted that he continued to cling to permanganate and oxalic.

The Canal Zone physicians told us that they were seeing very few cases of the so-called tropical diseases. The bulk of their work corresponds largely to what one would find in an equal number of cases in this country. There have been only a few cases of amebic dysentery, and they are generally treated by giving massive doses of ipecac internally, generally about 60 grains at bedtime.

A few cases of bubonic plague have been introduced. Whenever any of these cases make their appearance, Yersin's serum is given as a prophylactic measure

to those who are exposed in caring for those ill of the disease.

There have been a few severe cases of anaphylaxis, as there are quite a few individuals who are sensitized to horse serum. Dr. Darling, the chief government pathologist, himself suffered severely from one of these infections and has made a noteworthy contribution to the literature of this subject. The attack usually comes on quite suddenly. The victim may be awakened from sound sleep by a sensation of choking, sudden swellings, simulating angio-neurotic edema, the so-called Quincke's disease, and acute urticaria appear.

The plague flea is said to inhabit by preference a certain species of rat, but will use the human being as host for a time. The Canal Zone sanitary officials have made particular war on rats as well as other disease carriers.

At Balize, British Honduras, the doctors were giving emetine hypodermically in the treatment of amebic dysentery, but in New Orleans, Limon, and other places they were depending on heavy doses of ipecac given by mouth, 60 grains in a single dose at bedtime. The irrigation system or method of treating this disease has apparently been abandoned, except in a few of the most obstinate cases.

Once in a while they have a case of filariasis in Panama, and now and then a leper. There is an isolation hospital of very small size for lepers.

Panama is perhaps the most cosmopolitan port of its size in the world. At this one point converge and meet the commercial ships of the Atlantic and the Pacific Oceans, of North and South America, of Europe and Asia. This port is a clearing-house of nations. Here all varieties of disease can be easily introduced at any time, in case the extreme vigilance of the health officer is relaxed. They have had a few cases of plague, and I think about eighteen cases of yellow fever during the first few years of the American occupation before the cleaning up of Panama.

We were fortunate in meeting Dr. Samuel T. Darling, who is at the head of the department of pathology, a man of great personal charm and individuality, and one who labors incessantly with the enthusiasm of genius. Dr. Darling described to us the vile pest hole that Panama was. He said that during the rainy season the streets were a mire of filth. The only sewers a city of 50,000 people had were open gutters. The only water supply was cisterns, wells, rainwater tanks and water barrels. To all such the mosquito had an open door.

The natives were immune to yellow fever, as all had it during infancy and childhood. Fifty per cent died from this disease. The majority of the natives were densely ignorant and indifferent as regards sanitation. The French had built splendid hospitals and official quarters, but with the fatality of ignorance had made ample provision for breeding places for mosquitoes in the shape of rainwater barrels and rain-gutters. Every gutter in the zone was torn down and every rainwater barrel had its head knocked in by a rifle butt. An American physician and sanitarian was made superintendent of the native hospital, San Tomas, to be sure that no case of infective disease was sneaked in unreported. The United States authorities took absolute charge of the city sanitation. A water system, a sewage system and a lighting system were all installed. The streets were paved. A campaign of education, cajolery, force and flattery was carried on with astute tact by Col. Gorgas. He had to break down the prejudices of four hundred years. Local writers have said of Col. Gorgas, that he can make you take quinine and persuade you it is sweet, and can make you believe that white is black, and so on.

The best troops of the Panamanian army were converted into a police force. There are 600 of them alone in the city of Panama. There is a school of hygiene or sanitation at which these policemen are taught. Each one of them is a sanitary inspector and each man's premises are liable to daily inspection by some one of this splendid-looking body of men. Of these 600 policemen 150 are plain-clothes men. The conditions both in Panama and the Canal Zone are such that the government is an absolute military autocracy.

Col. Gorgas spent money during the first few years with what was thought by many to be a lavish hand. It has now been found that it was the best investment that could have possibly been made. Without it, the canal could not have pos-

sibly been dug, and Col. Gorgas has shown that the amount spent after all is less than one cent per day per man, which surely is not so much to spend for health.

The Canal Zone buildings were all screened, all gutters were torn up and instead concrete drains were built around the houses to carry off the rainwater. Hundreds of miles of ditches were dug in the swamps. Acres of jungle were cleared and everywhere that there was a seepage of water or a likelihood of mosquito breeding, oil barrels have been installed with an appliance which is known as a drip, which lets the oil flow constantly at a very slow rate, drop by drop, in such a way that there is a constant film of oil on the surface of the water. All stagnant pools and still water in the vicinity of human habitations are sprayed daily with a solution of creosote in coal oil, known as larvacide.

The mosquito larva rests at the bottom of shallow water and comes to the top every little while in order to breathe. If there is ever so thin a film of oil on the water, the larva cannot get out and is asphyxiated.

The sand fly is another pest which sometimes causes a good deal of trouble by its severe bites. If this fly is allowed to bite you and lay its egg in the skin, this egg will germinate and produce a worm which burrows in the skin and causes suppuration. This fly breeds in the grass and cannot exist in the glare of the tropical sun. To keep down this pest hundreds of men are at work during the rainy season cutting grass and bushes, sometimes with a scythe, but the native Indian generally cuts the grass with his machete, which is a stout bladed cutlass. With his left hand he holds a bunch of the tall swamp grass in a hooked stick while he cuts it off with the machete. This machete is the universal tool and weapon of the native throughout Latin America. With this simple implement he clears the ground, tills the soil, plants his crops, cultivates them, builds his houses, cuts wood for the family stove, kills a hog or steer, makes war on his enemy, and for all I know shaves and picks his teeth. The machete is his constant friend and companion. Every farm boy carries it, every railroad section and laborer.

Dr. Darling tells us that pneumonia and nephritis are two of the most common and fatal diseases, being particularly prone to attack the Jamaican negro, who possesses at least a relative immunity to the tropical diseases. The nephritis is harder to explain. Possibly it is due to the fact that the skin functionates too freely, so that the urine is concentrated and taxes the kidneys too heavily.

Malaria is the universal disease of the tropics. No one seems to escape it. All seem to have had it at some time during the life. In the Canal Zone quinine is taken by the Americans with almost the same regularity that they take their meals. The Jamaican negro and Indian do not care for it, but can be induced to take it when it is given with rum. They will take a drink of native rum, and the quinine mixed with it. This mixture is furnished free by Uncle Sam.

There are more chiggers in the woods of Panama than there are in West Virginia, and I think they bite harder, and at the beginning of the dry seasons the jungle is alive with ticks. These ticks commonly infest the cattle, but do not hesitate to stick on the first human being that passes their way. The ticks constitute the principle menace to cattle raising and sometimes kill the young cattle in large numbers. Most of the large ranchers manage the tick question by giving their animals arsenical dips or by rotation of pastures at the beginning of the dry season, when the female tick lays its egg.

Shortly after this time if you go out in the jungle and don't look sharply, you will come back with a hundred or so of these blood-sucking ticks firmly attached to your hide. However, they are easy to remove and give you no serious trouble. These are what the natives call grass lice.

Dobie itch is another pest and a great many of the native washer-women are infected with it, along with other natives, and when they do your laundry in the native manner, washing it at some mountain stream without boiling, you are liable to develop this irritating infection on wearing the clothes.

Dr. McMillan and myself were talking with one of Uncle Sam's physicians who had a bad case of—what shall I call it?—for want of a better name, baccilliphobia. He would frighten us every day with some new and unheard-of danger to which

we had subjected ourselves. He would say, "My God, man, you don't mean to tell me that you went ashore at Cortez or Barrios! I would not think of doing such a thing. You might have been exposed to the infection of yellow fever." We told him that about four days had elapsed since we took that great risk, and that we were still feeling pretty well. He shook his head sadly and said the period of infection is not yet over, don't you be too sure of yourselves. Or he would say, "Heavens, you don't mean to say that you drank water at Limon or some such place that had not been boiled. You probably will develop amebic dysentery." And when we told him that we had sent our laundry to a native washer-woman, that was evidently to him the last straw. "Why," he said, "if you wear those shirts and collars and underclothes, you will most certainly develop dobie itch, which is one of the most difficult of the parasitic skin infections to cure." I do not know just what Dr. McMillan did with his laundry, but I am sure he did not wear any of it. I wrapped mine in a separate bundle and brought it home and had it sterilized carefully for three days in succession. As we have been back home for six weeks and have not developed blackwater fever or dysentery or dobie itch, I feel that we are fairly safe.

At Balize, I think it was, we called upon a local physician, who advised us to take quinine regularly three times a day, that it certainly would do no harm and might save us from a long and serious illness. My friend Mack and myself repaired to the nearest drug store and purchased a bottle of the precious capsules, and I think after we had taken the second or third dose, we forgot to take any more, and so far I haven't heard anything about a chill.

One meets in these far-away places some curious types of the genus Esculapius. At Cortez I think we saw some extreme types. We fell in with a Texan who probably would have been a rancher or cowboy at home. He had lived in this benighted country for about twenty years, and, as we were told on good authority, had participated in about twelve revolutions. He had had all sorts of experiences. Had married an Indian woman and was rearing quite a family of half-breeds. He was in high favor with the present political party controlling the government of Spanish Honduras, and had been rewarded for his services in the last revolution with the position of medical inspector of the port. He told us how he had ridden all the way from Tegucigalpa in two days and a night, mule-back, crossing mountain trails and fording the swollen Chamelicon river during one of the revolutions. He had a little botica or drug store, and we noticed that on his office desk a long dagger lay in easy reach of his right hand.

Another physician we met in this place was Dr. Austin, a most cultured and cosmopolitan gentleman from New York, a man who would do credit to the medical profession in any part of the world. For nearly thirty years he for some reason known to himself has chosen to live an isolated life here in this lonely tropical place. We found him a man fully abreast of the times and conversant with all of the latest discoveries and theories of modern medicine. He had an interesting hobby, the collection of Indian relics, particularly the potteries of pre-historic tribes who dwelt in this country. Among his relics was a flint crescent probably fifteen inches in diameter. More than likely this is the largest piece of worked flint in existence. The doctor had a Spanish sword which was dug up on the line of march followed by Alvarado, one of the followers of the mighty Pizarro. The doctor's home is one of the most beautiful pieces of tropical architecture and landscape garden that I have ever seen secluded, as it is, like a gem by contrast to the simple and crude surroundings of the little town.

The cemeteries are interesting places to visit around Panama. There is the foreign cemetery in which dozens and dozens of French engineers are buried, the Chinese, the Jewish and the native Spanish, and that reserved for the laborers of the Canal Zone. The Spanish cemetery is surrounded by a high wall of masonry, and inside this wall are pigeon-holes, figuratively speaking, in which the caskets are placed and the rental paid for five years. At the end of this time if the rental is not renewed, the bones are taken out and thrown in a trash pile in the corner. The poorer Spanish people are buried in graves as with us. It is curious to see a dozen or more graves dug in an-

ticipation of deaths. The grave-digger evidently prefers to dig graves whenever it suits him and not wait until they are needed. One curious thing about this cemetery is that it never grows any larger. New graves are dug on the site of the old ones, and on looking at the soil thrown out of these graves one can easily pick up various fragments of human bones.

The Panamanian ponies or small horses which propel the native carriages about are cantankerous little creatures, and don't think anything of balking at any little hill. The driver frequently makes long detours and tries to fool the horses into thinking they are not going up grade. We were out behind a pair of these one evening and came to a little rise in the street. One of the horses stopped and absolutely refused to go a step further. He kicked and jumped until he had gotten over the pole with the other horse. With the assistance of a few by-standers he was restored to his proper position.

In the Canal Zone most of the food used is cold storage and is shipped from the United States. The meals are quite good and cheap, and while the wages are not high, yet with cheap food and house rent free the laboring man can save more than he could in this country.

The native Spanish people detest cold storage food and all of the beef and other fresh meat used by the native Spanish residents of Panama is killed after 10 o'clock at night, for the early morning market. We visited the abbatoir where these animals were slaughtered. They are not knocked in the head or stuck as with us, but the beef is drawn up close to a post by a rope, and the butcher steps in front of him with a knife and skilfully passes this through the muscles of the neck, severing the spinal cord at the base of the skull. The operation is done very skillfully, and with lightning-like rapidity. The moment the cord is cut the animal falls like a dead weight. A quick thrust of the knife is then made through the side of the neck, opening up the great vessels of the neck, and the crimson blood rushes forth in a torrent.

An American farmer would be astounded at the ease and crudity of farming as compared with our methods. In the tropics the ground is never really cultivated as we understand that term. About all the Panamanian farmer does is to plant the seed, then hack the bushes away occasionally. For this slight tickling of her sides nature rewards him with a most lavish hand. Corn produces three crops a year, peppers, egg plants and cotton plants grow on from year to year and become shrubs; sweet potatoes and sugar cane become perennials and do not need replanting for ten years or more.

The wire fences are strung on live fence posts of gum which roots easily, as the climate is such that unprotected wood decays readily.

Capital City Bank Building.

PREVENTION OF TYPHOID BY VACCINATION.

M. R. Stone, M.D., Parkersburg, W. Va.

In reviewing the history of anti-typhoid vaccination, it is rather surprising to learn that it dates back to our earliest knowledge of immunity, and that several investigators were led to experiment with immunization of animals against typhoid, when Pasteur achieved his first successful immunization of animals against anthrax. These experiments were carried out by inoculating rabbits with several non-lethal doses of typhoid bacilli, and it was found they were proof against subsequent fatal doses. The experiments were carried out in 1886, and the investigators suggested sterilized cultures for inoculating men but were timid about the use of live bacilli.

Nothing further came of the work owing to the fact that nothing was known of the toxin of typhoid or of the existence of typhoid immunity. In 1892 Kitasato and Wasserman showed that it was not necessary to use living bacilli, since killed cultures were equally effective and that the immunizing substance was an integral part of the bacillus.

In 1894 Pfeiffer and Wasserman discovered the nature of the immunity in typhoid and devised a method of measuring its quantity. They discovered that the character of the immunity and its degree depended on the presence of bacteriolytic immune bodies in the blood serum, and the test formulated at that time has been known as the Pfeiffer phenomenon. The

results obtained by the Pfeiffer test proved conclusively the possibility of producing a high degree of immunity against typhoid by the use of killed culture.

The first immunization of men in any practical number was done by Sir A. E. Wright of the Medical Corps of the British Army in 1897, and he was convinced that the method was practical and gave immunity to such an extent as to warrant its adoption by the army.

He was given permission for its use. In the following year he experimented with it in the army in India with very encouraging results. The great difficulty seemed to be that some men were apparently protected and some were not.

Their method of standardizing was to determine the amount needed to kill a small guinea pig and then use this quantity as an immunizing dose for men. For this reason each lot of vaccine had to be tested separately and the dose regulated according to strength and not according to quantity. The cultures were killed by heating to 60° C. for two hours. This has since proven too high a temperature and too long a period. The results in the British army were not entirely successful and vaccination was discontinued for a few years.

It remained for the Medical Corps of the United States army to put anti-typhoid vaccination on a sound basis. When the medical men of the U. S. army took up the work of vaccination against typhoid in 1908 it was thought there had been some fault in the manufacture of the vaccine, else there would not have been the irregular results given by the English method. A twenty-four hour agar culture was used instead of a fourteen-day culture, and the cultures were heated to 55° C. instead of 60° C., as it was thought the latter degree of heat might have lessened the activity of the vaccine in some way, which later proved true. The method adopted was the easiest and simplest one possible. An avirulent strain of bacilli was used—grown on agar for 24 hours, washed off in normal salt solution, standardized by counting, killed by heating to 55° C. for one hour, then one-fourth of 1% tricresol added as a matter of safety and a preservative. In preliminary experiments carried out with vaccine prepared in this manner it was found that immune bodies in great quantity were produced in the blood, and according to laboratory standards a high degree of immunity, without causing any severe, local, or general reaction.

Altogether results have been so nearly perfect that no attempt has been made to improve on the vaccine now in use. The vaccine is given hypodermatically at the insertion of the deltoid and is given at ten-day intervals. The first dose consists of 500 million dead bacteria and the second and third of one billion each. There is usually a local reaction consisting of redness and slight swelling over an area about as large as the palm of the hand. This lasts one or two days. There is probably 1% of severe general reaction, consisting of headache, rise of 1 or 2 degrees of temperature, soreness of body, and some cases nausea and vomiting.

Twenty to twenty-five per cent have a moderate genreral reaction, consisting of headache and slight weakness, while about 75% have no general reaction whatever.

The concentration of troops in Texas in 1911 afforded an exceptional opportunity to test the method of individual protection aginst typhoid fever by vaccination. In all there were 13,000 men in the mobilization camps which were located at San Antonio, Galveston and San Diego. Some of these men had been vaccinated previous to arrival in Texas, but a large number were recruits and unvaccinated. Vaccination proceeded rapidly and was completed in one month. Of all the men in these camps, but one developed typhoid and he was a civilian teamster who had refused to be vaccinated. The camps were located close to Galveston and San Antonio and the men were frequently in town eating and drinking where they pleased. The same water supply was used in camp as in the cities. During the period of four months in camp there were reported in San Antonio 49 cases with 19 deaths, and in Galveston 192 cases. These two cities can, therefore, act as controls and indicate what might have happened among the troops had it not been for the vaccination. When we come to compare the absence of typhoid in the 13,000 troops encamped in Texas for four months, and the great prevalence of ty-

phoid among 11,000 troops encamped at Jacksonville, Florida, for five months during the Spanish-American war in 1898, under similar conditions where there were 1,729 certain and 2,693 probable cases, we can readily see the wonderful value of vaccination. Up to July 1st, 1912, 82,000 men were vaccinated in the U. S. army with no bad results, and only 12 cases had developed with no deaths. There has been a reduction of 90% in number of typhoid cases in the army since 1909.

In Memphis, Tenn., during the recent typhoid epidemic 30,000 persons were immunized and among these there were 517 children under five years of age. In Japan a comparison of 12,900 immunized soldiers with 20,000 not immunized living under the same conditions shows one case per thousand among immunized, and 14.52 cases per thousand among those not immunized. In the Civil War there were 80,000 known cases of typhoid in the Union army alone, and 20,000 cases among the American troops during the Spanish-American War. Typhoid has been the greatest single cause of illness that has ever developed among the American soldiers in any war we have had. In fact a far greater percentage of deaths during the Spanish-American was due to typhoid than was due to gunshot wounds. We can readily see how much more efficient is an army free from typhoid than one where an indefinite number are ill with this disease. In civil life conditions are different from those in the army and in many ways much easier to handle. When a good water supply and sewerage system is to be had a typhoid epidemic can be fairly well handled.

However, we have outbreaks of typhoid when the source of infection is hard to find and control. Under such conditions vaccination should at once be resorted to by all who have been or who are liable to be exposed. I know of one case where vaccination apparently saved an entire family. This family had moved to the country for the summer and were using water from a well which to all appearances was safe. One child became ill with typhoid. The water was examined and found to be loaded with typhoid bacilli. The father, mother, and two other children were vaccinated and also two servants. An old maid aunt refused vaccination, saying she was not afraid of typhoid. The child was treated with small doses of vaccine along with the routine treatment and recovered. The aunt, who had refused treatment, became ill a week after the child was taken sick and later died. No other members of the household had the disease. Every physician and nurse, either in a hospital or out, should be vaccinated. All travelers, engineers, plumbers and workers in industrial towns, such as mining villages and in fact in all places where sanitary conditions are poor should take advantage of this method of protection. The cost is so small that it is within reach of nearly every man and woman.

The duration of immunity has not yet been determined and probably will not be for a few years. Three to six years is thought to be about the limit.

In the opinion of many observers anti-typhoid vaccine is destined to play an important part in the treatment of typhoid. Any agent powerful enough to produce such almost perfect immunity should be an aid in helping to bring about a natural immunity.

ONE HUNDRED CATARACT CASES.

John L. Dickey, A.M., M.D., Wheeling.

(Read at Annual Meeting of State Medical Ass'n, May, 1913).

It is possible that this section of our State Society may be interested in the report of one hundred consecutive cases of senile cataract operations.

Fifty-eight of these one hundred patients were men and forty-two women.

Fitfy-one of the operations were on the right eye and forty-nine on the left eye.

The average age of the one hundred patients was sixty-seven years. The oldest one was ninety-two and the youngest thirty-eight. In these two cases, the oldest and the youngest of the series, the result was perfect.

Several of the patients were operated on sitting in an arm chair, facing a window.

In all of the cases local anaesthesia was obtained by a few doses of a solution composed of ten grains of cocaine, ten grains

of boric acid and one ounce of distilled water.

The first double bandage was left on as long as there was no pain nor discomfort, three, four or five days, and in a few cases as long as a week.

In only one case was the simple operation done (without an iridectomy) as the iris seemed well out of the way. In all the others the four steps were done at one operation; the corneal section, the iridectomy, the capsulotomy, and the extraction.

A serious loss of vitreous did not occur in any of the cases.

Ten of the operations were failures, from various causes. One eye was lost by infection from an unknown source, the surroundings being good, in a hospital; but good vision was secured in the other eye. In one case the operation was followed gradually by iritis, scleritis, panophthalmitis, and enucleation. One operation was followed by plastic iritis and poor vision. In three cases the lens was dislocated, poor vision resulted, and the patients went elsewhere. In three cases a dislocated lens was followed by poor vision, but a good result was secured in the other eye. In one case about two-thirds of the cataract was extracted in a soft mass, but the nucleus disappeared, and the operation was followed by scleritis, keratitis, and finally a white cornea. Within a year, however, the patient went to Philadelphia and DeSchweinitz secured a perfect result in the other eye.

In passing it might be said that the average distance glass required in the successful cases of the series was plus ten and a half dioptres, without considering the cylinders that were used. The average reading lens was of the strength of about fifteen dioptres.

The seven cases of dislocated lenses could not all be attributed to nervous and unruly patients, nor to a bungling operator, for several of the lenses seemed to drop gently back into the vitreous without being subjected to bad treatment of any kind. These cases of dislocated lenses I have counted as failures, and yet nearly all of them were capable of some vision and might have been considered successes in the old days of couching.

The first one of this series was especially interesting to me for several reasons. It was my first cataract operation in private practice. It was the youngest one of the series, thirty-eight years old. It was the first case, so far as I know, and the assertion has never been contradicted, in which cocaine was used as an anaesthetic. The date was November 6th, 1884, and a short time after Dr. Kohler had demonstrated the wonderful and powerful effects of a solution of muriate of cocaine as a local anaesthetic in Berlin. It was probably rash to use such a remedy before experiments had proven that it was comparatively harmless, because it would be natural to expect that such a drug, producing so marked local anaesthesia might have a serious result in so effecting the circulation as to produce sloughing of the tissue. It may have been an instance of "Fools rush in where Angels fear to tread." But no harm was done with the new anaesthetic; healing of the wound was quick and perfect; the result was fine, vision of twenty twentieths with a plus nine dioptre glass. The patient was so pleased with the result that she insisted on having the other eye operated on, which was done just three months later, with an equally good result.

Another reason for this case being interesting was that she belonged to a cataractous family. Her mother had been blind with double cataract and had been operated on successfully at the age of forty. In 1892 I operated successfully on a sister of my patient who was blind with double cataract at the age of forty-seven. In 1895 I operated with a perfect result on another sister, from Missouri, at the age of fifty-seven. It was a soft cataract and she had been entirely blind for about twenty years or since she was thirty-seven years old. At that time she had been operated on, but the result was not good and the eye had been enucleated. Immediately after this last operation the patient was able to read small pica print with a proper glass. The remaining sister of the family has lived to a good old age with no impairment of vision. Of the two sons in the family nothing definite could be learned as they had left home early in life. One of the sons had served through the Civil War, and they heard at home that afterwards he had gone blind.

The second family that seemed to be cataractous was that of a man aged sixty-seven on whom I operated for a ripe cata-

ract in 1898. His father had cataract in both eyes, well matured, when he died at the age of sixty-eight. An older sister of my patient had been blind from cataract and had been operated on when about fifty years old. Another sister, aged about sixty, had a mature cataract in the right eye at the time. The male cousins, sons of his father's brother, had cataract in both eyes when about sixty years old.

The third case of possible hereditary cataract was that of a man aged forty-four years whom I operated on in 1899. He was totally blind from double cataract, and I removed a hard, fully matured lens from the right eye, in which the vision had begun to fail two years before. His brother had gone blind from the same cause when about forty years old, and had been successfully operated on. His father and mother were living at seventy with good vision, but his father's sister had double cataract when seventy years of age.

In 1904 I removed a mature cataract from an old gentleman of seventy-four. His sister, aged eighty-two, had been blind in one eye from cataract for several years, and had one eye operated on a year before her death. A sister of his father had also been blind from double cataract for several years before her death at seventy-seven.

Dr. G. N. Brazeau, of Fond du Lac, Wisconsin, having read my report of this last case in the Journal of the American Medical Association, sent a report of a family in his practice which was published in the Journal in July, 1904. In the family he reports the mother, aged sixty-four, a son aged thirty-six, a daughter aged thirty-two, and a grandson aged ten, all afflicted with cataracts.

Dr. Edward Nettleship, of London, the eminent oculist who operated on Gladstone for cataract, has written about hereditary cataract, and asserts that Americans have reported no cases of the kind. Dr. Casey Wood, of Chicago, wrote an excellent paper on the subject that he read some years ago before the Ophthalmological Section of the Philadelphia Academy of Medicine, which I had the pleasure of hearing. The whole subject of hereditary cataract is an interesting one and deserves further study and observation and report.

TUBERCULOSIS.

I. C. Hicks, M.D., Huntington, W. Va.

(Read at a meeting of Cabell Co. Medical Society, July, 1913.)

This subject upon which I am called to make a few remarks is not a matter of choice but a response to the suggestion of my friend, the secretary, Dr. Bloss.

Since we have no specific for this dreaded disease that costs the lives of 275,000 per annum in America as well as a potential wealth of $700,000,000, we are all stimulated to the heighth of our ambition to do the best that our profession demands of us. The first and most important consideration is the ability to make a correct diagnosis which is not at all times easy (since I saw a case in The Johns Hopkins Hospital which the microscope failed to verify in 29 consecutive examinations in the year of 1902). Did we have a slight disposition to observe more closely, as our forefathers did, and not rely upon the microscope so much as we do, I feel sure we would be better diagnosticians than we are. The material history is of great importance, but not wholly to be relied upon as was formerly the case. The general physique of the patient is of great import, as to full chest and good expansion, though I have in mind now one who will soon pass to the great beyond from whose "bourne no traveller ever returns", that one year ago weighed 205 pounds and had a chest expansion of five inches. The five cardinal points of diagnosis are in importance as follows: First, the rapid pulse; second, hyper-resonance; third, the rapid loss of weight, and fourth, the dilated pupil, and lastly but not least, the temperature which causes the name consumption.

Among other less important symptoms can be mentioned anorexia, thirst, an extremely red tongue, flushed cheeks, and at near the end an oily, glossed suit of hair, as well as night sweats, constipation, etc., etc.

Since my remarks were to be more closely confined to the treatment than to diagnosis and symptoms, I wish to comment upon the comments which have been commented upon, what has been a part of my hobby since about the year 1898 and

up to the present time. My treatment is neither bug juice nor Friedman-Fizzles, turtle-blood, nor dead bacilli, but what has been somewhat criticized mostly by those who have not tried its virtue to its merit or demerit.

One of the first cases treated in the fall of '98 was that of a young lady aged 18 T. B. and diagnosis verified by microscope with the hereditary predisposition, her mother and father having it, and uncles and aunts on both sides who died with it. She was reduced from 132 pounds to 88 pounds with persistent cough in the first two months with night sweats and other symptoms. I put her on the creosote treatment with bryonia, aconite, and gelsemium, and she began to increase in weight as I increased the medicine and milk. She is living today and is in good health. She took 40 drops of the treatment.

About that time I also treated another patient to whom I gave 90 drops of the medicine, and she lived in fairly good health for five years and died from some form of heart lesion.

I have treated within the past 15 years, I will safely say, 250 patients with T. B. and 75% of recoveries of those who have remained with me. I have added in conjunction to this treatment within the past three years a 2 gr. C. C. T. calcium sulphide every four hours followed by glassful of water. The calcium is specifically indicated in those cases of profuse expectoration. I treat sweats as an independent symptom which is not difficult to do in the heroic doses of creosote and combined antipyretics above named.

I have under my care a number of patients who are taking as a tissue builder the preparation of maltine, olive oil, hypophosphites and arsenic, and they seem to gain very rapidly in weight.

Taking it for granted that there is no virtue in the use of the creosote, I will take issue with you that the anxiety to get well will cause the patient to take gallons of milk where you can not get them to take pints unless they think they are getting medicine. Also taking the disease and treating it by name, "combustion or consumption," as it applies, we no doubt reduce the combustion by lowering the temperature, by lowering the blood pressure and lessening friction, which in my mind is responsible for an elevated temperature as much as the toxins which are generated by the bacilli.

I have now under treatment patients whose temperature has been reduced from 102 to 98 and even 97 and three-fifths and are gaining from one to three pounds in weight per week. You may criticize by saying the stomach will not tolerate the treatment, but I know from experience and a test of 15 years it will, and the digestion will improve as the patient gains in strength and weight.

The combination treatment is summarized as follows: Tr. aconite, gtts. 20; tr. bryonia, gtts. 15; tr. gelsemium, gtts. 30 (and in persistent coughs drosera, gtts. 60); creosote sufficient to make two ounces. Begin with three drops in glass half full of rich milk after meals, and increase the milk and medicine each dose or day, as the patient can best tolerate it, and until the temperature and pulse are reduced to as near normal as possible. I have the mist. increased to five or ten drops in the two-third glassful and divide the dose and milk accordingly, as, for example, when I increase to 30 or even 60 gtts. I make three doses and in so doing get them to take as much as two full glasses after meals, which they most generally do.

Second in importance in the treatment is what I consider of great efficacy, namely, an inhalant composed of guaiacol, oil eucalyptus, oil mentha-piperita, betula and creosote, equal parts, with a little chloroform if the cough is extremely persistent. This is used on a sponge in an inhalant or container with both ends open, and I consider the fumes or scent worthy a trial. Thirdly in importance is quiet and diet in a well ventilated room at home.

An enema of a cold solution of normal saline of a pint at bed time serves three or more purposes. First, it dilutes the toxins; second, reduces temperature; and thirdly, it promotes peristalsis and causes normal bowel movement.

If I have added nothing to the methods of treatment of this dreaded disease I hope to have stimulated an enthusiasm in our little society by which we may scrutinize the various diagnostic signs and symptoms with a less tendency to wholly rely upon the bacteriologist to tell us our

diagnosis in other diseases, as well as this, and by so doing with strife and struggle we may become more useful in the profession which we so necessarily represent.

With an apology for this mixture of crippled English written between calls and answering of phone and doorbells, I hope to have created at least an interest as to our duties toward all mankind, and more especially that of our helpless sick who help to add gray hairs to our weary pates.

RELATION OF LACTIC ACID IN STOMACH CONTENTS TO CARCINOMA OF THAT ORGAN.

C. L. Holland, M.D., Fairmont, W. Va.

The presence of lactic acid in the stomach contents, especially if considerable in amount, was formerly believed to be pathognomonic of cancer of that organ. Late investigators refuse to accept this theory as specific and affirm that while lactic acid does almost invariably exist in the stomach contents in the presence of carcinoma, indeed it is very rarely absent in this disease, it may and does occur in other conditions.

The diagnostic significance of the presence of lactic acid in the stomach contents is indicative of two conditions existing simultaneously, namely, sub-acidity, (or deficiency in hydrochloric acid), and stagnation.

For the formation of lactic acid it is, of course, necessary that the organism of fermentation (or lactic acid) be present and in process of development.

Boas asserted "that stagnation and deficiency in hydrochloric acid may be present, and that, nevertheless, the production of lactic acid need not occur after the ingestion of a carbo-hydrate meal, but that a third factor was necessary for this." He regarded the presence of large quantities of lactic acid as pathognomonic of cancer in the stomach. Ewald, Rosenheim and Klemperer believed that the genesis of lactic acid in carcinoma of the stomach was due to the deficiency of hydrochloric acid which allowed the organisms of fermentation to develop.

If the secretory powers of the stomach are from some cause, reduced, and free hydrochloric acid is in consequence lessened in amount or entirely absent, the process of fermentation is allowed to proceed; also, if the motor function is impaired or there exists an obstruction at the pylorus, in consequence of which the stomach contents are allowed to remain over long in its cavity, this combined with deficiency of hydrochloric acid allowed the formation of lactic acid to take place.

Straus has, however, conclusively demonstrated that lactic acid may be present even though the motor function of the stomach be good. In the case cited in his report, however, the above observation regarding stagnation still holds good. The case was one of carcinoma of the stomach wall, but notwithstanding the presence of this neoplasm the patient's stomach showed almost normal motor power. Straus's explanation of the phenomenon was that "carcinoma forms a solid plate in the stomach walls and causes induration of the surrounding tissues. The peristaltic movements of the stomach do not exercise the same effects on this resisting hard surface that they do on the smooth mucous membrane. In the latter tissue mountain and valley alternate, consequently the membrane is continuously cleansed."

The above quotation very clearly sets forth the tenacity with which the organisms of fermentation cling to the diseased stomach walls, even though the coarse morsels of food are being pushed onward.

Reigel asserts that while the presence of lactic acid in the stomach contents is a valuable adjunct to diagnosis, "it is not a pathognomonic symptom of cancer." He further says, "according to our view, which corresponds with that of most authors who have investigated the lactic acid question within recent years, the presence of lactic acid in the stomach contents simply indicates the existence of sub-acidity and of stagnation. These two conditions are never so constantly present nor so intense as in carcinoma." He admits further his inability to find lactic acid in a number of cases of carcinoma in which free hydrochloric acid was absent, but in those cases the motility of the stomach was normal. Klemperer reports three cases of carcinoma without the presence of lactic acid in which the diagnosis was confirmed at autopsy. While on the contrary, many cases of lactic acid forma-

tion have been reported in cases in which carcinoma was proven to be absent. In these cases there was, of course, deficiency in the gastric secretion and lack of motor power causing stagnation, which gave the lactic acid bacilli time and opportunity to multiply and develop.

Reigel reports the presence of lactic acid in two cases of regurgitation of intestinal contents, and one in a case of invagination of a part of the duodenum.

Strauss reports a case of fatty necrosis of the pancreas in which lactic acid was present in the stomach contents.

The above brief review of the literature on the subject is, I think, sufficient to show, that the old theory of the presence of lactic acid being a possible symptom of carcinoma was not well founded.

710 Locust Ave.

Selections.

THE GENERAL PRACTITIONER AND HIS MICROSCOPE.

By Charles L. Sherman, Luverne, Minn.

(Read before the Sioux Valley Medical Society, Jan. 24, 1913.)

It is not my purpose to present anything new with reference to the subject of clinical microscopy or to pose as a specialist or an expert in this particular line of work.

Clinical microscopy is the fundamental science to which modern scientific medicine owes its development. It is the means whereby we have been able to correctly interpret the etiology of many diseases and in many instances it is the only means whereby we can arrive at an accurate diagnosis. The development of this science has been rapid and the various technics have been so simplified and improved that the general practitioner who is willing to devote a little time and study to the subject can readily acquire sufficient skill to do most of his own microscopic work.

It is surprising how many physicians there are who do not have a microscope, while many who have one use it chiefly for an ornament. The excuse that is often given is a lack of time. It is a significant fact that the men who have the least to do are the ones who have the least time. The fact that any ordinary specimen can be examined in fifteen to thirty minutes precludes the question of time as a plausible excuse.

The city practitioner who has laboratory aid at his disposal or the surgeon or specialist who employs someone to do this work for him may be excused for his lack of familiarity even with the common procedure of microscopy. But the general practitioner who does not do this work or have someone do it for him is not doing his duty to his patient.

We criticise osteopaths, chiropractors, the various new thought cults and other fakes for attempting to practice the healing art; and justly so, because of their lack of familiarity with the fundamental subjects of medical science. Does not the regular physician who continues to practice medicine without making use of the most important of our diagnostic means deserve to be placed in the same category?

In dealing with the practical side of this subject, time will permit me to point out only a few of the many instances where the general practitioner can make use of the microscope to great advantage in his daily work. We are informed by men of good authority that pulmonary tuberculosis should be diagnosed before the T. B. can be found in the sputum. While this is true in some instances it is not always or even generally possible. Occasionally we have a well advanced case of pulmonary tuberculosis where we fail to find T. B. in the sputum, but often they can be found where there is very little systemic disturbance and where physical examination is well nigh negative.

I have a patient under my care at the present time whose sputum has shown the presence of T. B. at intervals for three years. He has no rise of temperature and feels perfectly well if he refrains from hard work, but even severe exertion is not followed by fever. I have been able to note a few rales on two or three occasions, but they have been transitory and have not recurred in the same location. Von Pirquet's test, although used several times, was invariably negative.

I was recently consulted by a lady, visiting in our city, who was the patient of a

prominent city clinician, under whose care she had been during the previous six weeks. His diagnosis was a mild attack of sub-acute bronchitis and his treatment indicated that he was sincere with his patient. I examined the sputum and found many T. B's. I have mentioned this case because some time previous I had read an article by this same clinician to the effect that a physician was not doing his duty to his patient if he did not diagnose pulmonary tuberculosis before the T. B's occurred in the sputum.

No less authority than Richard Cabot says, "Tuberculin tests are of value only when considered in connection with other symptoms because of the fact that reaction often takes place in individuals not afflicted with tuberculosis." The fact, therefore, remains that the finding of the T. B. by the aid of the microscope is the only positive evidence of tuberculosis, not only of the pulmonary form, but of other varieties as well. Sometimes we have a septic bronchitis with symptoms that are characteristic of pulmonary tuberculosis. The microscope is our only means of disclosing the true condition and gives us a clue to the treatment to be pursued. As a rule if pus cells are very numerous T. B.'s are not to be found.

An instance where the microscope is a great comfort and a friend in need is in suspected cases of diphtheria. The throat can be swabbed, the secretion or membrane examined, and, often without developing a culture, a diagnosis can be made in a few minutes. The physician, if in doubt, can develop a culture in his office in much less time than it takes to secure returns from the state laboratory.

A urinalysis is not complete without a microscopic examination. Great stress was formerly placed on the presence of albumin, which justified the diagnosis of nephritis. It is now recognized that we may have a functional or orthostatic albuminuria without organic changes in the kidneys. We can therefore not properly diagnose nephritis without the aid of the microscope to ascertain the presence of casts.

The microscope is the only satisfactory means of ascertaining the presence of pus in the urine as well as the nature of the infection. Sometimes we find a suppurative kidney or an inflamed prostate, gonorrheal in character in individuals imbued with the spirit of piety to such an extent that we would hardly suspect the real cause without the aid of the microscope.

With reference to diseases of the blood we can ascertain nothing definite and our conclusions are purely guesswork without the microscope. Enumeration of red cells, or a leucocyte count, requires very little time, is not difficult and furnishes much valuable information.

A patient may have the appearance of being anemic, due to vasomotor disturbances or impaired heart action, and be doped with various preparations of iron, but an examination of the blood will show the number of blood cells and the per cent of hemoglobin to be normal. The leucocyte count furnishes us valuable information, especially in acute systemic infections. For instance, leucocytosis is usually absent or slight in typhoid and tuberculosis, while in infections caused by the staphylococci or streptococci it is very marked.

Serums and bacterial vaccines have certain well defined indications and in many instances they are our most efficient therapeutic agents. The majority of us have to rely on stock vaccines as we have not the facilities for preparing autogenous vaccines; nevertheless, we must know the exact nature of the infection we have to deal with before resorting to the use of vaccines. The only means by which we can ascertain this is by developing cultures and properly examining them.

Development of immunity and resistance by means of serum and bacterins will be the therapeutics of the future and will no doubt entirely displace many of our present therapeutic procedures in surgery as well as in medicine.

For centuries medicine was empirical. During the last thirty years of scientific advancement it has been largely preventive through development of asepsis, hygiene and sanitation. In the future we will depend more on developing the agents of individual immunity and resistance. Typhoid vaccine is the best and most recent evidence of development along these lines.

A great amount of effective work is being done to develop clinical immunity and sero-diagnosis. Sufficient has been accomplished so that it is safe to predict

that along these lines the great advances in medicine will be attained in the future.

If we are to profit by the research that is now in progress and be in a position to do better work we must be equipped to make proper use of the microscope in our daily work.

Summary.

First. The general practitioner is not making sufficient use of the microscope.

Second. In many instances the microscope is our only means whereby we can arrive at an accurate diagnosis.

Third. The application of vaccine and serotherapy cannot be properly accomplished without the routine use of the microscope.—St. Paul Med. Journal.

DYSMENORRHEA.

J. H. Carstens, M.D., Detroit, Mich.

(Read before the Medical Society of the State of New York, May 1, 1913.)

Dysmenorrhea seems to be on the increase, and probably is on account of our mode of living. Women of the primitive races did not seem to suffer very much from this condition as far as we can find out, hence we can assume that advancing civilization will continue to bring forth cases of painful menstruation. It is up to us to study its etiology and pathology and show how it can be prevented, and if present relieve the patient.

The usual classifications of varieties by different authors is still of advantage in making the diagnosis.

The membraneous dysmenorrhea is still obscure from an etiologic standpoint, but fortunately rare. I relieve some cases with a thorough curretage, and then swabbing out the uterus with pure carbolic acid. In a few cases I found a diseased ovary and tube in connection with it, and removed these at the same time.

The so-called "Ovarian Dysmenorrhea" is as a rule caused by an inflammatory condition of the tubes and ovaries, adhesions, in cases that follow different infections. These of course require an operation. There are some cases without any history where there is severe pain in one or the other ovary, and when they can be palpated are found to be very small and very sensitive. On operation (which is the only thing that can be done) we find simply a small, hard cirrhotic ovary, the removal of which cures the patient. All other pelvic organs are normal, no adhesions, simply this small and hard unfunctioning ovary causes the whole trouble.

Then we have tumors, such as fibroids and polyps, which require surgical treatment.

Displacement of the uterus, especially flexions, are by many authors considered the principal cause. Pessaries have been used, and many diverse operations suggested to relieve this condition, as a rule with little benefit. Many cases of displacements exist without producing painful menstruations.

Neuralgia has been made use of to explain painful menstruation, when we could find no other cause. Well, I suppose that is as good to tell the patient as anything else, but it neither explains to the scientific inquiring mind the etiology, pathology, mode of treatment, nor cures the suffering patient.

We finally come to the obstructive dysmenorrhea, which is placed at the head of the list by most authors. I take it last, because that is the kind I want to say a few words about.

Mechanical therapy has been for ages the prime view of the profession, resulting in the invention of innumerable dilating instruments, or in the cutting the cervix, the removal of part of the latter, or the whole, to remedy the trouble. There are rare cases, the so-called "pin hole os," which are cured by dilatation. In most of these cases where all other causes have been excluded, and the whole trouble seems to be in the uterus only, dilatation will relieve only a certain number. Investigations have shown that the uterus is generally patulous, a sound passes readily and the blood never coagulates in the uterus, but remains liquid on account of the alkaline secretion of the womb, which is increased during menstruation. There is no clotting of blood, and no large solid body to be expelled from the uterus, as the patient generally thinks. The coagulation takes place in the vagina. The blood can flow out of the uterus without any trouble. That is not what causes the painful menstruations. In fact, exhaustive experiments made in large series of cases have

shown that by thorough dilatation under an anesthetic, less than one-half of the patients are relieved, and the others find that in two or three months the trouble recurs. I have, therefore, always held that stenosis is only the cause in some cases, and that flexions produce none or little obstruction, and cause no pain, or rarely so.

Now, what is the trouble? As a rule in nearly all the cases where there is pain from the very beginning, we find a so-called small or infantile uterus. The so-called infantile uterus varies; sometimes it is only two inches in length and thin in proportion. In the majority of cases I find it of full length, two and one-half to three inches, but very thin like a finger, half to three-quarters of an inch in diameter. The mucous membrane is also poorly developed, just like the thin muscles.

Seeing a case like this, I would ask any man of common sense, what is the use of giving any medicine to such cases? What remedy is there that will make the womb grow? If anyone knows of such a remedy, I should be glad to know it, but on the very face of it no man with common sense will for a minute believe that any of the remedies ever recommended will make such an uterus grow to normal size.

I mention this simply to call attention to the need of a thorough physical examination of every case before trying any medicine. The temporary medical treatments for certain symptoms are in place, but a thorough systematic physical examination, under an anesthetic if necessary, should be made, then you know where you are.

First, we will ask ourselves, why is this uterus not developed? By getting the history of these cases we quickly see what the trouble is. Serious sickness of various kinds following each other, sometimes in quick succession during the age of puberty, will account for a small percentage of cases. But in the vast majority we will find there is a wrong mode of living, generally in the middle or upper classes. The girls study too much, long school hours, music lessons, insufficient exercise, bad air, improper food, and so on.

I find many cases in girls who are ambitious, who study hard, do severe mental work, want to be teachers, stenographers, bookkeepers, and so on, but who are descendants for seventeen generations of "the man with the hoe," that is, they have not the mental capacity to acquire knowledge, have to study very hard, keep at it, and finally gain their ambition, but at what a cost. All their strength and energy have been used up in mental development. Hard mental work and poor nourishment added, nature has not been able to develop the pelvic organs, hence an infantile uterus and dysmenorrhea.

Then I run across cases later in life, unmarried women, who menstruated regularly and painlessly for ten or fifteen years, then gradually develop pain during this period, it increases, and in a year or two they have a great deal of trouble. As these are nearly all women who are earning their own living, they have great trouble in holding their positions, if they are laid up one or two days every month. On examination I find these women have small hard uteri—a premature atrophy of the uterus, caused by the non-use of the organ, or the pelvic organs. This you generally find in unmarried women, the exceptions being in sterile married women, who develop a great deal of adipose tissue.

The question now is how to relieve these troublesome cases? They go to one physician, then to the other, take any quantity of medicine without relief, sometimes become dope fiends. Some practitioners say that these girls get cured when they get married, and become pregnant, and after that they have no more trouble. This is perfectly true in some cases, but how do you know that they are going to be married, and if they do, the trouble is that they do not become pregnant. This pathologic condition prevents pregnancy, and I have often been called upon to treat sterility, and find the above described condition.

What develops muscles in any part of the body? You will all answer, exercise is the only thing. They do not develop by rest. How to exercise them is the question.

Just thirty years ago I called attention to the value of dilatation in these cases, in using a dilator twice a week and continue this for months, but few patients will continue long enough; it is too painful.

Somehow it occurred to me that by

putting in a stem pessary the uterus would try to expel it, and this exercise develop the organ. I began experiments with all kinds of stem pessaries. Formerly stem pessaries had been used for all kind of displacements, but it was found that infectious trouble often resulted, and severe inflammation followed, then stems were soon tabooed, and are to this day by many. Simply because they do not select their cases, and do not understand the great principle involved. I finally selected the Chambers hard rubber pessary as the best, but always had more or less trouble with the two arms coming together, and the pessary coming out, so that I was obliged to add the Thomas-Hodge Retroversion Pessary. I finally began to use silver pessaries, which are alloyed so as to make them springy, and I know they do not come together and fall out. A so-called introducer is required to get them in place. This is painful, hence requires the use of an anesthetic. Naturally everything is supposed to be aseptic, the uterus must be thoroughly dilated to enable you to introduce the stem. The uterus can be curetted first if the mucous membrance is diseased, otherwise not. After it is in it causes no more trouble. No douches nor after treatment is required. The patient stays in bed twenty-four hours, that is all. I have patients wear them for years.

I must warn against the use of the pessary in diseased tubes and ovaries or adhesion, etc. **They must be absolutely excluded.** The pessary is useful only when the condition is limited to the womb. It does not relieve dysmenorrhea caused by pus tubes, retroflexions or cirrhotic ovaries.

Naturally, we do not always have painful menstruation alone; it is often accompanied with irregularity, coming on every six or eight weeks, very scant, and very painful. Now these cases are also relieved by the stem, menstruation becomes regular and more profuse, that is, about normal.

Some of the most troublesome cases we have are those very fleshy women who are great eaters. The monthly flow becomes scant and painful. Here also the stem gives wonderful relief. It is wonderful how these women will lose flesh, if they become sensible and regulate their manner of living.

Then we have those marvelous cases of reflex nervous symptoms during or between the periods, "Mittelschmerz," as the Germans call it, the kind of cases that are often overlooked.

All I ask is for a careful selection of cases, and a fair trial, and you will seldom fail to relieve these very troublesome and aften intractable cases with a silver stem pessary.

RHEUMATOID ARTHRITIS.

Sir James Barr, M.D., LL.D., F.R.S.E.,
President British Medical Association.

* * *

Symptoms.

We have already referred to the dilatation of the stomach, deficient motor function, acid fermentation and intestinal stasis; when the latter is very marked and persistent you get pigmentation of the skin with dark lines around the eyes. The function of the liver and pancreas is impaired, and the patient is usually troubled with flatulence. There is anorexia, but very rarely vomiting. As was originally pointed out by Kent Spender, there is a moderate tachycardia, and this is associated with excessive function of the thyroid, which leads to excessive calcium metabolism, fibrillar tremor, myotatic irritability, and rather free action of the skin. There is general muscular wasting, muscular irritability and contraction, frequently spasm and cramp, and at later stages neuritis with atrophy of the interossei and muscles of the thumb with deformity of the hands. The neuritis and symmetry of this disease have led many to imagine that it is of nervous origin, but as Sir James Paget pointed out, the decay of a leaf is symmetrical without any nerves. The quadriceps extensor femoris and deltoid are frequently much wasted. The muscular wasting leads to weakness, fatigue, and weariness, but although there is usually general emaciation and malnutrition, the existence of the disease is quite consistent with the presence of a considerable amount of adipose tissue. There is a slight effusion into the joints, swelling of the periarticular tissue, and the joints

become fusiform in shape, stiff, and tender. The skin over the joints becomes attenuated and glossy. All the deep reflexes are exaggerated except where the action is limited by the stiffness of the joints. There is often much general pain and tenderness from effusion into the sheaths of the muscles, and the presence of sarcolactic acid; these pains, as well as those of the joints, are worse at night. There are frequently acute exacerbations with intermittent pyrexia. At such times the affected parts feel hot, and there is rather profuse perspiration, increased muscular weakness, and general lassitude. At other times the extremities may be cold and somewhat livid, or the fingers may feel "dead and numb."

At a later stage a radiogram shows wasting of the cartilages and rarefaction of the articular ends of the bones; this leads to more or less irreparable deformity. The lungs are not affected; the muscle of the heart may be weak and irritable, and the blood pressure is low, but any valvular lesion which may be present is due to other causes, or may be induced in Nature's methods of cure. The brain is not involved, except so far as the irritability of the patient's temper may be considered evidence of such involvement. At any rate, the patient is never stupid nor mentally lethargic, though migraine is not uncommon; there is often slight anemia. The urine is usually clear, amber, acid (except from the effects of treatment), deposits urates during febrile attack contains an excessive amount of lime and phosphates, occasionally a trace of indican, and a little albumen in the later stages.

Treatment.

The earlier the recognition of the disease the more successful the treatment. Our attention should be first directed to the **prima via,** the teeth should receive scrupulous attention and all sepsis should be eradicated; the acid fermentation in the stomach should be eliminated, and this is most readily accomplished by cutting off all saccharine and farinaceous articles of diet, and placing the patient for a few days on an abundance of red meat with plenty of hot water. Red meat produces ammonia, which neutralizes the sarcolactic acid in the muscles; then milk to which some sodium bicarbonate and chalk or lime water have been added, junket and cream. The sour-milk craze in this disease has fizzled out. Afterwards green vegetables and farinaceous food, except oatmeal; a fair amount of fat should be given, especially olive oil or cod-liver oil; at least an ounce of one of these oils should be given every night at bedtime. Bacon gravy, fat bacon, cream, butter or margarine are valuable adjuncts, but beef and mutton fats had better be eschewed. The patient should take a liberal allowance of table salt with meals. All acids and acid fruits, rhubarb, tomatoes and asparagus should be avoided. When saccharoses are considered permissible, glucose and honey are better than cane sugar or jams, but perhaps a little marmalade may be occasionally allowed. When the patient is improving, grapes, bananas, nuts, stewed prunes and figs may be allowed; saccharin is better than sugar, more especially if the urine has become alkaline under treatment, and tends to deposit phosphates. Regarding drink, there is nothing better than pure water, especially when hot; weak tea, milk and soda water (containing about 30 grains of sodium bicarbonate to the pint), plain barley water, and raisin tea. Avoid all sweet and acid drinks, wine and malt liquors. Regarding alcohol, I think the patient is better without any, but if for any particular reason a little is ordered it should be in the form of whisky, gin, brandy, sloe gin, or liqueur cognac.

To correct the acid fermentation and improve the motor function of the stomach a good combination consists of 30 grains of sodium bicarbonate, 10 grains of potassium bicarbonate and 15 or 30 grains of aromatic chalk in a glass of milk about half an hour before meals, and a double dose at bedtime; often smaller doses suffice. An excellent stomachic of calcium chloride, hydrochloric acid, and minute doses of the perchloride of iron is very useful after meals.

The blood is very alkaline, the fixed lime is fairly constant, but as the alkalinity increases the blood holds less free lime and part of the free ionizable calcium is thrown out into the tissues, or excreted by the bowels and kidneys.

The fixed lime in the form of large

molecules of calcium albuminate increases the viscosity of the blood, lessens the capillary velocity, and diminishes transudation of albuminous fluids, hence where the blood is well charged with fixed lime you do not get any albuminuria; on the other hand, with diminished alkalinity and the presence of acid salts with an alkaline reaction the blood holds a considerable amount of lime, which is readily excreted by the bowels and kidneys, and leaves the blood ready to take up more lime from the tissues or alimentary tract. So long as the blood is more or less saturated with lime the fixed calcium remains constant, but where the acidosis is not completely saturated with lime or alkalis the fixed calcium may be split off from the albumen, and then you readily get transudation. Hence, in the early stages of rheumatoid arthritis the urine is usually free from albumen, but in the later stages or during acute exacerbations when the fixed lime is lessened you get albuminuria, and also effusion into the joints and tissues. Dr. Sydney Ringer made experiments on the swelling of laminaria when immersed in water, and he found that sodium and potassium chlorides retarded, but did not lessen, the amount of fluid taken up; on the other hand, even minute traces of the chloride or other soluble salt of calcium greatly and persistently restricted the swelling of laminaria. Among the causes of dropsy the presence of sodium chloride in excessive amount must be recognized; and in the treatment of this affection Widal and many others have recommended a salt-free diet; but I have shown that in many cases this is not enough; you must to some extent replace the sodium salts in the tissues with calcium salts. In rheumatoid arthritis there is usually a deficient supply and excessive excretion, though, of course, the activity of the process is an ever-varying quantity.

A small cholagouge pill should be regularly administered to keep the bowels open; for this purpose an excellent mixture can be made with the sulphate, bicarbonate, and salicylate of sodium and liquorice. The pancreas is also usually at fault, and to improve its action I often prescribe a capsule of holadin and bile salts about two hours after meals. In these cases the thyroid gland is usually too active, and so all preparations of iodine and thyroid should be avoided. Possibly suprarenal gland and pituitary extract might do good, as Dr. Blair Bell has shown that these secretions tend to retain the lime in the system, whereas the thyroid increases its elimination, but personally I do not care to prescribe such powerful drugs when milder remedies may suffice. It is imperative to get lime into the tissues and to lessen its elimination, but herein lies our difficulty, as no matter how much is administered by the mouth it may be as rapidly excreted as it is absorbed, and so none may reach the tissues; but on the other hand the acidoses in the blood may be taking lime from the tissues as well as from the intestinal tract. In order to get the lime into the tissues there must be a liberal oral supply, and the blood must be kept very alkaline. For this I prescribe freely chloride of sodium and potassium, sodium bicarbonate, chalk, lactate of lime, and calcium glycerophosphate. If it be desired to get calcium rapidly into the tissues it may be given in a very dilute form subcutaneously, say a pint of sterile normal saline solution with 0.05% of calcium chloride, and 3% of syrup of glucose. If the calcium chloride be administered hypodermically in a concentrated form, it may readily produce gangrene of the skin and adjacent tissues. Iron is best administered in in the form of underdone red meat, and yolk of eggs; arsenic, potassium iodide, guaiacol, and a host of remedies commonly prescribed are worse than useless.

Leucorrhea should be treated with injections, and any infection of the urinary tract should receive attention. Here vaccines will often prove useful, and the same may be said for pyorrhea alvaeolaris.

General massage and the Aix douche improve nutrition, and are highly beneficial; the hot air and electric light baths applied to affected joints often give much relief, but can scarcely be looked upon as curative agents. When you have cured your patient you can send her or him to Egypt, Timbuctoo, or any health resort. Encourage the patient to take a fair amount of exercise short of fatigue, when the disease has subsided, and to live a godly, righteous and sober life in this present world.—British Medical Journal.

The West Virginia Medical Journal

S. L. JEPSON, A.M., Sc.D., M.D., *Editor.*
ASSISTANT EDITORS
L. D. WILSON, A.M., M.D., G. D. LIND, M.D., Ph.D.,
C. A. WINGERTER, A.M., M.D., LL.D.

Wheeling, W. Va., March, 1914.

THE JOURNAL issued on the first of each month..

Subscription,	$1.00 per year
Single Copies,	15 cents

All articles for this Journal must be made to it exclusively. Communications and items of general interest to the profession are invited from all over the State. Notices of deaths, removals from the State, changes of location, etc., are requested.

Our readers are requested to send us marked copies of local newspapers containing matters of interest to members of the medical profession. Name of sender should be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer.

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Editorial

MEDICAL LEGISLATION AND EDUCATION.

It was our privilege last week to spend three days in Chicago in attendance on the annual session of the Council on Legislation, the Council on Education and the Federation of State Medical Boards, all held under the auspices of the American Medical Association. The first was presided over by Dr. H. B. Favill of Chicago and was very largely attended. Reports were called for from representatives of all the States, and in the absence of Dr. J. L. Dickey of Wheeling, the West Virginia member of the National Committee on Legislation, it was our pleasant privilege to report the advances made by our State in legislation bearing directly and indirectly on public health by the enactment of the amendments to our health laws at the last session of our legislature. The essentials of these were, the appointment of a full-time Secretary of the State Board of Health, who is ex-officio State Commissioner of Health, the establishment of a State Hygienic Laboratory, the provision for the education of the public through the periodical issue of a health bulletin, the provision for the distribution of vaccines, and the greatly increased appropriation made for the State Board. In addition to this we were enabled to report the enactment of a common drinking cup law, a hotel inspection law, a workmen's compensation law, a law for the enforcement of the constitutional prohibition amendment, and at an earlier session of the legislature the establishment of a state tuberculosis sanatorium. No state from which a report was received had so many advances in legislation that were for the general benefit and especially the health of the people. We yet lack a good law providing for the collection of vital statistics, a state law controlling the production and marketing of milk, a law compelling, if this be possible, the prompt reporting of infectious diseases to the county health officers, and some additional amendments to the board of health laws.

The second day's meeting in Chicago was that of the Council on Education, presided over by Dr. Bevan of Chicago, who has held this position for some years. We have not space here to detail the great work accomplished by this Council in the ten years of its existence. Suffice it to say that the number of the medical colleges in the country, as a result of its efforts, has been reduced from 160 to about 100, and the standard of scholarship, both pre-medical and medical, has been proportionately elevated. As a result of the higher standards that have been established the number of medical students has been greatly diminished. The medical schools are systematically inspected annually and the grade raised or lowered as seems to be justified by the character of the teaching done and the opportunities presented to the students. As most of our readers know, the classifications of the colleges are A plus, A, B, C, etc. We may say that the West Virginia Board will not hereafter admit to examination graduates from schools below the grade of B, and will require all applicants for licensure to have a preliminary education the equivalent of graduation from a high school having a four-year course.

The third day was occupied by a conference of the Federation of State Medical

Boards of the United States. This is a new organization just commencing its second year. It is composed of representatives of all the Medical Boards in the country. Its president is Dr. Charles H. Cook, of Massachusetts. The meeting was opened by an admirable paper entitled "Public Health Administration" by Assistant Surgeon-General Rucker, of the U. S. Public Health Service. We hope to have the opportunity of printing this paper in the Journal. Other questions discussed were, should there be a uniform minimum curriculum for medical schools; the use of the U. S. medical services in standardizing medical education; reciprocity between State Medical Boards; methods of teaching pharmacology and thereapeutics; the viewpoint of the State State Examiner; the viewpoint of the pharmacist; and the question of practical examinations for applicants for licensure.

At these meetings were a number of distinguished men whose presence and whose papers and discussions were inspiring. Among these may be named President Lowell, of Harvard; Lieut.-Col. J. R. Kean, of the U. S. Army Corps; Prof. Harold C. Ernst, of Harvard University, and Dr. Abraham Jacobi, of New York City.

The papers and discussions presented at these meetings will be issued in due time from the office of the American Medical Association, and they should have a wide circulation. Too much cannot be said of the mighty good that is being accomplished by the efforts of this association through its various councils and committees, proof of which is found in the next column. S. L. J.

The May issue of the Medical Review of Reviews is to be a woman's number. All the articles contributed will be from the pens of women physicians whose work has achieved national importance. In the laboratory, in the hospital, in institutions, at the bedside, and in public service, women physicians have performed a valuable function. The May issue of the above Journal will be a tribute to their earnestness, enthusiasm, and scientific acumen.

We call special attention to the "booster" for our next annual meeting to be found in this issue of the Journal. The lower end of the State evidently possesses a lot of young hustlers who purpose doing everything in their power to make the Bluefield meeting a great success. Have you written that paper for the Secretary that he has been asking you for? Send in the title at once and make ready to behold some of the fine scenery of West Virginia and enjoy a first-class meeting in the hospitable city of Bluefield. More papers are needed.

W. B. Saunders Company, publishers of Philadelphia and London, have just issued an entirely new eighty-eight page illustrated catalogue of their publications. As great care has evidently been taken in its production as in the manufacture of their books. It is an extremely handsome catalogue. It is really an index to modern medical literature, describing some 250 books, including 30 new books and new editions. A postal will bring you a copy.

MEDICAL EDUCATION STATISTICS FOR 1913.

The Journal of A. M. Ass'n of August 23, 1913, the annual Education Number, contains statistics on medical colleges, students and graduates for the year ending June 30, 1913. There were 17,015 students studying medicine this year, the lowest number since 1900 and 1,397 less than in 1912. These are divided into 15,919 in the non-sectarian colleges, 850 in the homeopathic colleges, and 256 in the eclectic colleges.

There were 3,981 medical graduates this year, 502 less than in 1912, and 292 less than were graduated in 1911. The non-sectarian colleges had 3,679; the homeopathic had 209 and the eclectic had 93. This is the lowest number of graduates since 1890.

There are 12 less colleges than in 1912, the total now being 106, consisting of 91 regular, 10 homeopathic and 5 eclectic colleges.

Since 1904 79 medical schools have been closed, 47 of which were merged into other medical schools, and 32 became extinct. During the same time 25 new colleges were organized, making a net reduction of 54 colleges. This reduction in the number of medical schools does not restrict the opportunity of student to study medicine but insures for him a better training, since the large oversupply of medical schools in this country is giving way to a more normal supply of better equipped colleges. Of the 79 colleges which closed, 56 had been rated in Classes B and C by the Council on Medical Education of the American Medical Association. A large majority of those closed, therefore, were inferior colleges.

Statistics show that college terms are being gradually lengthened. In 1901, 100 colleges had annual session of only 23 to 28 weeks each. Now all but three colleges have sessions of over 29 weeks and over 90 per cent. have sessions of from 31 to 36 weeks. In 1904 only 42 per cent.

of the colleges had sessions of 31 or more weeks.

Furthermore, diplomas from Class C colleges are reported as not recognized as a qualification for a license by twenty-four state licensing boards. It is a question, therefore, why a student should spend his time and money in a low-grade college the diplomas of which are not recognized in some states, when in the same time and with even less money he can attend one of the best equipped colleges, the diplomas of which are recognized in all states?

Of the 106 existing colleges, 63, or nearly 60 per cent., now require one or more years of work in a college of liberal arts for admission, and 28 others have announced the higher requirements to take effect in 1914. Over 80 per cent. of the colleges will be exacting this higher requirement after next year, whereas in 1904 only 4 colleges (less than 3 per cent.) required any collegiate work for admission. Thirteen state licensing boards have established the requirement for preliminary education of one or two years' work in a college of liberal arts, thereby supporting the better class of colleges which have adopted that standard. Seven of these require two years of collegiate work as the minimum requirement of preliminary education, the equivalent to that required by university medical schools for the six-year combined course for the B.S. and M.D. degrees.

Of the 3,981 medical graduates in 1913, 753, or 19 per cent. were also graduates of colleges of liberal arts. This shows a fairly rapid improvement in the qualification of those who are to practice medicine.

Medical colleges are rapidly being improved by the securing of endowments, new buildings, better equipped laboratories, better dispensary and hospital facilities and—most important—larger numbers of expert, full-time teachers. Improvements have been particularly rapid since the creation by the American Medical Association of the Council on Medical Education in 1904.

ATHLETICS AND HEALTH IN THE NAVY.

In his annual report to the Secretary of the Navy, the Surgeon-General of the Navy has collected the statistics of the subsequent health of 580 non-athletic midshipmen who were in the Naval Academy during the twenty years from 1892 to 1911 inclusive. These statistics were gathered for the purpose of comparison with a corresponding set secured last year with regard to the subsequent health of 622 men who had represented the Naval Academy in the crew, on the football team and in other forms of strenuous athletic contest for the same period.

Any comparison between the two groups in this matter should of course result in favor of the athletes, for they are not only picked men, but as the Surgeon-General says, twice selected picked men. They are the men who, it would reasonably be supposed would be best able to resist the real effects of overtraining and overstraining and who should, other conditions being equal, possess a comparatively greater degree of health and longevity. But this has not proved to be the case. It has been found that from those diseases to which athletics have a possible or probable relation there has been but one death among non-athletes as compared with six for the athletic group. Of the men still in the service whose records show abnormal physical conditions, 187 are non-athletes as against 198 athletes.

Probably the most striking arraignment of the ill-effects of strenuous competitive athletics is to be found in the degenerative diseases of the heart, arteries, and kidneys which in recent years in spite of all our advance in sanitation have greatly increased, though the contagious diseases have been reduced in a remarkable way. The Surgeon-General says:

"The following conditions or disabilities show an excess amounting to 50 per cent. or more among the athletes; arteriosclerosis, valvular disease of the heart, cardiac irregularity, cardiac dilatation, cardiac hypertrophy, gastric disturbances, albuminuria, general poor health, obesity and tuberculosis, and various traumatic lesions as well It seems reasonable to suppose that the disabilities among the athletic class are largely due to spectacular athleticism and would not have been acquired had the overstraining and over training not been indulged in."

The Journal of the American Medical Association commenting on the Surgeon-General's report, thinks that with these facts before them it will be rather difficult for university faculties to justify the tolerance and encouragement which they now give to intercollegiate contests and the training for them. They hurt scholarship, which has always been admitted, but there seems no room for doubt that they also hurt health. Their alleged hygienic value was the chief excuse for their being.

A HOME HOSPITAL TUBERCULOSIS EXPERIMENT.

New York Society Endeavors to Treat Whole Family in Model Quarters.

Results of a year's experiment in the home treatment of tuberculosis in the Vanderbilt tenements conducted under the direction of the New York Association for Improving the Condition of the Poor, made public today, would indicate that consumption can be cured in congested districts of a large city and that too at an expense less than in the ordinary sanatorium.

The experiment carried on during the past year is the first of its kind. It has been called the Home Hospital, because it provides a home for all of the members of the patient's family and in addition, all the advantages of hospital care for the consumptive himself. The hospital is located in the East River Homes, built by Mrs. W. K. Vanderbilt especially for tuberculous families Twenty-seven families consisting of 135 individuals were treated during the year. Six of the families have been rehabilitated physically, socially and economically, and five have been discharged as not suitable for the experiments. Out of the 135 individuals, 79 were patients, the average number of patients being 2.92 to a family. The report shows that the average residence at the hospital was 233.3 days and that

the average gain in weight of each adult patient was 9.9 pounds. Of this group 61 per cent. were apparently cured, 22 per cent. had their disease arrested, and 11 per cent. were much improved. Of the 65 children under care, 16 were consumptive, 18 were suspicious cases, and 27 were excellent candidates for the disease. Without exception every child gained in weight and in resistance to tuberculosis. An open air school and roof playground is provided for the children.

The report would also indicate that the cost of treatment per patient compares favorably with that in the best sanatoria of the country. The experiment, however, has been one not only in the treatment of tuberculosis, but in the treatment of poverty and dependence. The results seem to show that the actual cost to the community in caring for families of this character is less at the Home Hospital, than if certain members of the family are cared for in homes, are sent to an institution and the remaining members of the family are cared for in homes, asylums or elsewhere. The total cost of the experiment for a year was $20,217 which is $8,299 less than the estimated yearly cost under ordinary present methods.

The experiment which was conceived by John A. Kingsbury, New York's new Commissioner of Charities, while he was director of the Association, will be conducted for at least two more years, in an effort to demonstrate finally the practicability of this method of treating poor families having one or more tuberculous members. Commenting on its possibilities, Dr. Livingston Farrand, Executive Secretary of the National Association for Study and Prevention of Tuberculosis, says, "It is a promising attack on the baffling of the problems connected with tuberculosis and is likely to prove a contribution of the very highest importance."

NEW INCISION OR TOWEL CLAMP

W. P. Megrail, M.D., Wheeling, W. Va.

A simple clamp that has a "bulldog grip" that will not come loose until desired. Handles lie flat, taking up but little or no space, giving a smooth level surface around the field of operation. It interferes little with the operators by permitting them to get closer to the work.

COMING MEETING OF W. VA. MEDICAL SOCIETY.

At the last meeting of the Medical Society of the counties of Mercer, McDowell and Mingo, the undersigned was asked to write "A Booster" for publication in the State Medical Journal of West Virginia—a booster for Bluefield and Southern West Virginia.

To those of us living in the Southern part of the State, this term of "A Booster for Bluefield" sounds a little out of place. Bluefield, I think, needs no boosting, neither does Southern West Virginia.

But perhaps there are many who will attend the next meeting of our Society who do not know Bluefield as we who live in the Southern part of the State. To these, especially, this article is addressed, and I trust through the Journal to reach many, if not all, who may wish to know something of the "Summit City," where our next meeting will be held, May 13th, 14th and 15th.

Bluefield is in the Southern part of West Virginia, and is located in the county of Mercer, one of the best and richest of all the good and rich counties of our "Mountain State." Mercer joins the counties of Tazewell, Bland and Giles in Virginia, and the counties of McDowell, Wyoming, Raleigh, Summers and Monroe in West Virginia.

Bluefield is situated on the great Norfolk & Western Railroad, and has truly been called the "Gateway into the Flat Top Coalfields," as well as to the Clinchfield Coalfields. The city has also been called the "Summit City," for the reason that it is situated on the summit and at the dividing lines between East River,

flowing East from Bluefield and the Bluestone River, flowing West from the city.

The city of Bluefield has a population of something more than 15,000. Within her borders is one of the finest—if not the finest—railroad yards in the United States. Here it is that the vast tonnage of coal from the Flat Top and Tug River coal fields, as well as that of the Clinch Valley branch of the N. & W. is weighed and sent forth to the markets of the world. This tonnage is immense, and the large shipments of "Black Diamonds" from this and adjoining counties has made for this part of the State a reputation of which Southern West Virginians are justly proud.

The city has excellent hotels, good street car service, good water and fine telephone system, is well lighted, and, above all, it has a citizenship of which any city might well be proud.

The meeting of the Society will be held in the Masonic Temple, where the members and the guests will be provided with all the conveniences necessary for their comfort and enjoyment.

HOW TO GET TO BLUEFIELD.

To those who may not know how to reach Bluefield I will say that there are two ways by which the city can be reached by those living "up State." One of these is by coming to Kenova, and from there over the N. & W.—Trains Nos. 16 and 4 will bring passengers from Kenova to Bluefield without change. From Kenova, Huntington or any point on the C. & O., east or west, those who wish to do so can come over the C. & O. to Deepwater and from that point over the Virginian to Matoaka, and from Matoaka over the Bluestone branch of the N. & W. to Bluefield. Either of these routes is all right and the trip will be enjoyed by the traveler, especially is he enjoys beautiful scenery.

We hope and expect to have a well attended meeting, and to have with us some of the most eminent learned surgeons of the State of West Virginia, and have as our guests men of high standing in the science of medicine from the "Old State." Among the most distingueshed personages expected to be present is the Governor of West Virginia, Dr. H. D. Hatfield, whose skill as a surgeon and reputation as a practitioner are well known and recognized wherever he is known. We are promised an address by Governor Hatfield, and I feel that this alone will well be worth a trip to Bluefield, as the address will be interesting and instructive.

In conclusion, let me say to the members of the Society, come! To those of the profession who are not members, I can only say, you will be welcomed. Knowing Bluefield and the citizenship of Bluefield as I do, I feel that I can say that the latch string hangs on the outside, and you need but pull and enter.

More anon. Most truly,

J. R. VERMILLION.

Princeton, W. Va., Feb. 23, 1914.

State News

Dr. J. Lee Gregory of Charleston died rather suddenly at the Barber Sanitarium on the night of January 30th. The cause of his death is not definitely known. He had been ill of tuberculosis for some time, and had recently returned from Ashville. He leaves a wife and two children.

* * *

Dr. Barker of Parkersburg, is busy at Johns-Hopkins Hospital taking a post-graduate course in genito-urinary work in Prof. Young's clinic. We learn that after some months he will visit Europe for additional instruction.

* * *

Dr. O. M. Staats of Wheeling, has recently purchased the property of Dr. Schwinn at 2000 Chapline street, and is now occupying it as his residence. He still retains an office at 3312 Jacob street.

* * *

Dr. Rollo Camden, late of Parkersburg, is now permanently located in Washington, D. C., at 915 Avenue of the Presidents.

* * *

The new McMillan Hospital in Charleston was recently opened for business. The editor had the pleasure of going through it recently. It is a well equipped building and contains rooms for twenty-five patients.

* * *

The Franciscan Sisters recently opened a new hospital called the St. Francis, in Charleston. It has a capacity of thirty beds.

* * *

Dr. J. C. Kessler of Cowen, W. Va., President of Webster County Board of Health, has recently been in Chicago attending the Clinics.

* * *

Dr. G. C. Schoolfield of Charleston, is spending the winter in southern Florida.

* * *

Dr. W. F. Shirkey has removed from Malden, W. Va., to Charleston; and Dr. G. W. Manning from Dobbin to Baltimore, Md.

Society Proceedings

THE CABELL COUNTY SOCIETY.

HUNTINGTON, W. VA., Feb. 15, 1914

Editor W. Va. Medical Journal:

The regular monthly meeting of this Society was held in the Hotel Frederick on the evening of the 12th.

We had a very interesting address from Dr. J. Ross Hunter of Hansford on "The Treatment of Compound and Comminuted Fractures."

Dr. W. R. Hudson of Huntington, was elected to membership.

After the meeting lunch was served in the Cafe. Fraternally yours,

JAS. R. BLOSS, *Sec'y.*

GREENBRIER VALLEY SOCIETY.

The first annual meeting of this Society was held in Ronceverte, on the 25th of February, at

1 p. m. Dr. N. R. Price, President. The program included: 1st, business meeting; 2nd, election of candidates for membership; 3rd, election of officers; 4th, reading of papers; 5th, discussion. T. C. McCLUNG, *Sec'y.*

LITTLE K. & OHIO VALLEY SOCIETY.

PARKERSBURG, W. VA., Feb. 6, 1914.

To the Editor of W. Va. Med. Journal:

The L. K. & O. V. Medical Society met Feb. 5, at the Chancellor Hotel.

The Society had its first social meeting of the year—with a dinner. Around the table were gathered a goodly number of the faithful members.

After this the usual business was taken up. The Treasurer reported that the Society had fully settled with the State Society for the year 1914, for 43 members. Besides this we have several members who, living outside our county, are not reported here. Our Society had expected President Venning of the State Society to be with us. At a late day he notified us that a trip abroad would prevent his coming. Dr. Howard Smith of Marietta, an honorary member, kindly consented to take his place, and gave us a capital paper on "Diabetes Mellitus," covering the subject in a most thorough way. Of special note was his treatment of two cases of diabetic coma by the intravenous injection of bicarb. and carbonate of soda in normal salt solution. One case died, the other recovered from this usually fatal termination. Dr. Smith had had a rather unusual experience in the number of cases he had seen.

A general discussion was then had among the members present, and various interesting points brought out. Thanks of the Society were extended to Dr. Smith for coming to our help on so short a notice.

Society then adjourned to meet March 5th.

Respectfully,

W. H. SHARP, *Treas.*

MINGO COUNTY SOCIETY.

WILLIAMSON, W. VA., Feb. 17, 1914.

Editor West Virginia Medical Journal:

The February meeting of the Mingo County Medical Society was held in the reception room of the Williamson Hospital on the afternoon of the 17th.

Meeting called to order at 1:30 oclock by Dr. Tunis Nunemaker. Two very interesting clinical cases were presented; one, a case of pyelitis in a school boy following a traumatic injury presented by Dr. A. G. Rutherford of Thacker, the other a case of trachoma with pannus in a boy of 14 years.

This case had progressed untreated for four years and showed the destruction incident to neglect in such cases.

The regular order of business was suspended and Dr. Percy J. McElrath of Bramwell, presented an original article entitled "The Cellular Determination of Sex."

This was a most interesting article to say the least. Dr. McElrath is a very interesting as well as impressive man, and it is to be hoped he will be granted an opportunity to present his views of this subject to our higher Association.

Time being limited the meeting was adjourned at 4:45 p. m. Yours very truly,

WM. H. TRIPLETT, *Sec'y.*

OHIO COUNTY SOCIETY.

October 13, 1913.

After the summer vacation this Society resumed its meetings on October 13, President Schwinn in the chair. Dr. G. Ackerman was chosen as the new President; Dr. John T. Thornton, Vice-President; Dr. J. E. Burns, Secretary; Dr. R. M. Baird, Treasurer, and Drs. Armbrecht, Drinkard and Caldwell as Censors. Dr. West reported forty injections of salvarsan given intravenously, the drug being dissolved in 10 c.c. of distilled water, and injected with a syringe with a platinum needle. Average time consumed, five minutes. Report discussed by Drs. Jepson, Schwinn, and Gaydosh.

Dr. Schwinn reported a case of dislocation of the lower epiphysis of the radius in a boy 16 years old due to cranking an automobile. X-ray plate shown. Dr. Thornton reported a fracture of the radius extending into the wrist joint.

After several other reports of cases the meeting adjourned J. E. BURNS, *Sec'y.*

October 20, 1913.

Society met, President Schwinn presided.. The declination of Dr. Ackerman as President was received and Dr. Thornton was chosen President in his stead, with Dr. H. M. Hall, as Vice-President.

Dr. Schwinn read a paper on "The Significance of the Enlargement of the Lymph Nodes." He gave the anatomy, histology, general structure, and pathology of the lymphatic system, spoke of the filtration in the glands, and said that the size of the inflamed cervical gland depended upon the location of the portal of entry of the infection. He said the origin of tubercles was in these filters, and that the lymphoid cells lie in the interstitial reticulum; that the enlargement of the lymph glands means disease of the areas of the body drained by the gland, the most important enlargements being inflammation. He then took up the differential diagnosis of the enlargements of the lymph glands, and said that syphilis was most important as a cause and tuberculosis was next. He then considered the signs, symptoms and pathology of Hodgkins disease and spoke of the work of Langhan, and Ackerman when the latter was a student at Berne. He then spoke of lympho-sarcoma, pseudo-leukemia, sarcoma and carcinoma of the lymph glands.

Dr. Weinberger opening the discussion said that 80 per cent. of enlargements of the lymph glands in children were tubercular. He made some remarks on the diagnosis of sarcoma of the lymph glands, and took up the method of treatment both surgical and medical of the different enlargements.

Further discussion by Drs. Gaydosh, Hupp, Hildreth, Quimby, Drinkard and Burns. Dr.

Schwinn in closing spoke of a case in which the thoracic duct was severed during the extensive dissection and removal of the cervical glands, which case promptly recovered upon clamping the duct.

Dr. Megrail reported a case of diphtheria to which he was called late and in which 161,000 units of antitoxin were used. Result fatal. He reported another case in which 56,000 units were used with favorable results.

Discussion by Dr. Osburn.

Adjourned. J. E. BURNS, *Sec'y.*

Reviews

PRINCIPLES OF SURGERY.—By W. A. BRYAN, A.M., M.D., Professor of Surgery and Clinical Surgery at Vanderbilt University, Nashville, Tennessee. Octavo of 677 pages with 224 original illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, $4.00 net.

In a simple and logical manner this southern author has put the fundamental facts before the student and practitioner, thus laying the foundation upon which the immense details of practical work may be built. While the title is "Principles of Surgery," it really covers elemental teachings vitally concerned with every branch of medicine. The most modern and advanced views are presented. It is difficult to pick out any one topic that deserves special commendation, all parts fully covering their particular field and written with that fulness demanded by every day needs of the practitioner.—M. M. B.

MATERIA MEDICA, PHARMACOLOGY, THERAPEUTICS AND PRESCRIPTION WRITING. FOR STUDENTS AND PRACTITIONERS.—By WALTER A. BASTEDO, Ph. G., M.D., Associate in Pharmacology and Therapeutics at Columbia University. Octavo of 602 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, $3.50 net.

This is the latest candidate for professional favor, and in many respects it commends itself to the student and practitioner. Many old and little used remedies have been eliminated, and a number of others might have been. As the author remarks, "as a result of research many of the hitherto valued drugs are falling into merited disuse." Far better that the physician should limit his study to the really valuable drugs and perfect himself in a knowledge of the action and therapeutic uses of these. To this end are we coming, and this book will hasten the pace.

A very full and valuable chapter on Prescription Writing closes the book. It can be studied with advantage by very many practitioners who so often fail to write their prescriptions correctly. The book can be highly commended.

HISTORY OF MEDICINE, WITH MEDICAL CHRONOLOGY, BIBLIOGRAPHIC DATA, AND TEST QUESTIONS.—By FIELDING H. GARRISON, A.B., M.D., Principal Assistant Librarian, Surgeon General's Office, Washington, D. C., Editor of the "Index Medicus," Octavo of 763 pages, many portraits. W. B. Saunders Company, Philadelphia and London, 1913. Cloth, $6.00, net; Half Morocco, $7.50, net.

How few of us know as much of the history of medicine as we should. A few of the great pioneers have come to us through the literature, but not many have read an entire volume on the subject. Here is a work of moderate size by a thoroughly competent writer, which should commend itself to the profession. It is filled with pictures of the members of our noble profession who have, by their work, achieved fame that is enduring, commencing with that of Guy de Chauliac (1300-70) "the most distinguished authority on surgery in the 14th and 15th centuries" and ending with Kocher and others whom we know much better. This book should find its way into the libraries of many physicians, and the reading of it will be not only profitable but exceedingly pleasant.

PRACTICAL SANITATION--A HAND-BOOK FOR HEALTH OFFICERS AND PRACTITIONERS OF MEDICINE.—By FLETCHER GARDNER, M.D., Health Commissioner of Monroe County, Indiana, etc., and JAMES PERSONS SIMONDS, B.A., M.D., Professor of Preventive Medicine and Bacteriology, Medical Department University of Texas, Lately Supt. Indiana State Laboratory of Hygiene. Illustrated. St. Louis. C. V. Mosby Co., Publishers. Price $4.00.

This is a book in a somewhat new line, being intended as an "exposition of the duties of the health officer." We know of no other book covering exactly the same field. It deals fully with the subject of quarantive, groups different diseases that need to be quarantined, treats of school inspection, gives instruction in campaigns against flies, rats, mosquitos, bed bugs and other vermin disease carriers.

The health officials who get this book and study it carefully will make more efficient officers. They will know more of the management of epidemics, can better practice disinfection, and can learn much as to laboratory methods as applied to preventive medicine.—S. L. J.

INTERNATIONAL CLINICS.—A quarterly of Illustrated Clinical Lectures and Special Articles. J. B. Lippincott Company, Philadelphia. Price $2.00.

As usual in this most excellent periodical, the names of many widely-known men appear as contributors, among whom may be named Albert Abrams, Robt. T. Edes, James Hendree Lloyd, James J. Walsh. The topics discussed are of wide variety, and some are of unique interest, as "Interpretation of Dreams, based on Various Motives' by Meyer Solomon, "The Psyche in Diagnosis" by Robt. T. Edes, "Shall the Deaf Mute Remain Dumb or Shall the Dumb Speak," by Carl T. Wettstein. The purchaser of this book always gets more than his money's worth.—S. L. J.

DIAGNOSTIC METHODS.—A Guide for History-taking, Making Physical Examinations and the Usual Laboratory Tests Useful in Practice. By HERBERT T. BROOKS, A.B., M.D., Professor of Pathology University of Tenn. College of Medicine. C. V. Mosby Company, St. Louis. $1.00

Those who are rushed for time will find this book a valuable guide. In addition to careful instruction in history taking, an essential in obscure cases, it gives clearly and briefly the laboratory examination of sputum, urine, stomach contents, blood, serous fluids, etc., all frequently a necessity in accurate diagnosis.

THE HUMAN BODY AND ITS ENEMIES.—A Text Book of Physiology, Hygiene and Sanitation.—By CARL HARTMAN, B.A., M.A., Instructor in Zoology in the University of Texas and L. B. BIBB, B.A., M.D., Attending Physician Austin Sanitarium. 246 illustrations. World Book Co., Yonkers, N. Y.

This is intended as a school text book. The old book on Physiology is going out, and the new, with little anatomy and physiology and much hygiene and sanitation is coming in. This is progress in the right direction. In this book is much information that will be useful not only to the pupil but in the family. The book might be made still smaller without material loss.

FIRST BOOK IN HEALTH.—A Text Book on Personal Hygiene for Young Pupils. By HARTMAN and BIBB.

This is a primer of health issued by the same publishers as the above. Its teaching is based on the latest progress in medicine and sanitation and contains information which ought to be in the possession of every boy and girl, and their parents as well.

ESSENTIALS OF PRESCRIPTION WRITING.—By CARY EGGLESTON, M.D., Instructor in Pharmacology, Cornell University Medical College, New York City. 32 mo of 115 pages. W. B. Saunders Company, 1913. Cloth, $1.00 net.

Purchase this little book that will go in your side pocket, make it your daily companion "while you wait," and you will not make as many blunders in your prescriptions as you are now in the habit of making.

THE TREATMENT OF RHEUMATIC INFECTION.

This is issued by Parke, Davis & Co., to demonstrate the value of Phylacogens which have received so much condemnation and so much praise for the past two years. It contains a large number of clinical reports that can be read with interest.

ANATOMY AND DISSECTOR IN ABSTRACT.—Illustrations. By STEWART L. McCURDY, A.M., M.D., Prof. of Anatomy and Surgery University of Pittsburgh. Medical Abstract Pub. Co., Pittsburgh.

This is a 4th edition, which demonstrates the book's right to live. It contains the essentials of anatomy in pocketbook form, and can be commended.

Medical Outlook

EPITHELIOMA OF NIPPLE.

A girl aged 11, was admitted to the hospital June 8, 1910, with ten weeks' history of attacks of pain in the left nipple. Shortly after the commencement of the pain the nipple was found to be somewhat larger than that on the other side. Treatment consisting of hot fomentations was carried out in the out-patient department four weeks previous to admission; on one occasion the nipple was incised but no pus was found. On admission the left nipple was found to be enlarged about the size of a small hazelnut. Superficially the tumor consisted of a layer of horny material covering entirely the deeper portion which was of softer consistency. There was no infiltration of the subcutaneous tissues, and the tumor was not adherent to the deeper structures. Pain of a stabbing character was produced on palpating the tumor. No enlarged lymph-nodes were felt in the axilla.

The first operation was performed June 17. The tumor together with the subcutaneous tissues down to the pectoralis major, was removed by two elliptic incisions made above and below the nipple and half an inch away from it. Bleeding points were ligatured with catgut, and the wound was closed with salmon-gut. The report from the clinical laboratory was "squamous-celled carcinoma."

The patient was readmitted six weeks later with a soft, painless, polypoid excrescence of about the size of the original nipple growing in the scar. One lymph-node was felt enlarged in the axilla under cover of the pectoralis major. July 22, the second operation was performed. Two elliptic incisions were made giving the scar a wide berth, and the granulation growth, axillary glands and sternal portion of the pectoralis major were removed. The report of the clinical laboratory was: "The scar shows chronic inflammation with giant cells around ligatures. Nodes normal." There is at present no evidence of recurrence.—*Battle & U. in London Lancet.*

ANURIA.

An interesting case of complete anuria lasting eight days in a young man with previous good health, except for an occasional polyuria at varying intervals is reported by F. J. SHEAHAN, Delhi,, Ont., (*Journal A. M. A.*, March 15). The condition seemed to give but little discomfort at first, the patient complained only of the suppression of urine and headache, but general anasarca developed after several days and vomiting occurred, twitching of the muscles, and headache became pronounced and continuous. The cystoscopic examination showed normal condition of the bladder and a catheter was passed

easily into the pelvis of both kidneys showing no obstruction. It was evidently a case of complete cessation of renal function. After the general anasarca developed, diuretic treatment having failed with salines, and pilocarpin having previously failed, he was given a mixture of apocynum 5 grains, iris versicolor one-half grain, hyoscyamus four grains, every three hours. Exactly eight days from the beginning of the attack the kidneys began to functionate very freely and improvement was progressive thereafter. The cause of the trouble is very obscure and Sheahan doubts hysteria, which is not favored by the patient and the history and character of the case. He asks, is it a condition developing as a complication of an occasional polyuria from which the patient had previously suffered or is it a forerunner of diabetes insipidus and produced by a toxemia existing in the early manifestations of the disease. Sheahan says, "I think it was clearly demonstrated that the kidneys resumed their functions as the result of a powerful renal stimulant. The problem is, what was the cause of this condition? The question is an open one."

THYROID EXTRACT: BAD EFFECTS OF.

Milton K. Meyers reports in the *Monthly Cyclopedia* for June a case of a woman who, healthy until she began taking thyroid extract to reduce her weight, became very nervous, lost fifteen pounds, and shortly after taking the drug developed, for the first time in her life a nocturnal convulsion, in the course of which she bit her tongue. During the past two years she has had only three or four hard convulsions, but has had several attacks of petit mal weekly since It is unfortunate that the history does not state the exact dose of the gland extract used, nor the length of time of treatment. The patient bought the drug on her own responsibility at a drug store and took double the dose prescribed by the clerk. She first consulted her physician for tachycardia which had become apparent to her. She did not suffer her first epileptic attack until later, and at the consultation with the physician, herself attributed it to the taking of thyroid. The case is interesting from the fact that it corroborates Meyer's contention that anomalies in the quantity and quality of thyroid secretion may so act upon the nervous system that an epileptic attack may be determined either directly or by a primary action or failure of action on other toxins. The case is also of interest in that it is a contribution to the toxicology of the thyroid gland. Despite the fact that the symptoms resulting from excessive thyroid medication are well known theoretically to physicians, surprisingly few cases are reported in the literature.—*Cleveland Med. Jour.*

CLEFT PALATE OPERATION. G. V. I. BROWN. *Journal American Medical Association*, October, 19, 1912.

Brown discusses the use and methods of the cleft palate operation. He first points out that too much must not be expected in the way of speech improvement, as there may be factors underlying other than the apparent anatomic defects. He condemns the methods of compression, especially in the young, as tending to interfere with normal oral and dental development, and gives details of experiments made with puppies showing the bad effects. The second type of operation, namely, turning over the flaps by reversal of the soft tissues on one side and attaching them to the opposite side, was also experimented with on dogs. The result of such operations, even when successful in giving a covering to the palate, is to cause formation in that region of more or less thickened fibrous tissue which may yield to normal expansion as growth proceeds and not seriously contract the mouth and nose, but it cannot have the firm resounding properties of a bony palate or the fixed resistance to the attachment of muscles needed for proper speech function. Emphasis is laid on the importance of preventing all these defects by avoiding all unnecessary forcible treatment in infancy and selecting the type of operation that will best retain all tisssues in as nearly as possible their normal situation. This necessarily implies systematic treatment from the very earliest period of infancy if possible. Each operative procedure leading step by step to the next in order that each may be more easily and thoroughly accomplished.

ALCOHOL AN APHRODISIAC.

There is one particular point which may be considered the major factor in what may be entitled unpremeditated, accidental immorality. This is the aphrodisiac and mental inhibitory action of alcohol. It is not necessary that alcohol should be used to the degree of actual intoxication although rather frequently we get from both men and women accounts of venery, with or without venereal disease, clearly established by circumstantial evidence but of which they have no remembrance. Still more frequently, the lapse due to alcoholic excitement. Even without any flagrant violation of decency, we too often witness in ordinary social life, the transformation of a dignified, virtuous woman, into a would-be libertine, by what is commonly considered a moderate and proper indulgence in alcoholics.—A. L. BENEDICT.

HYPERPHORIA.

Speaking of hyperphoria in the *Annals of Ophthalmology*, W. Reber comes to the following conclusion:

1. Hyperphoria is likely to be latent before the thirtieth year, and manifest after that time.
2. It occurs most frequently to the extent of about one degree.
3. The usual symptoms are supraorbital transient vertigo, drowsiness, irritable eyes and abnormal physical fatigue after prolonged near work.
4. A full quota of sleep, daily open-air exercise and a well-regulated life, are all highly important factors in the management of these cases.
5. Convergence repression, if convergence is

excessive, and convergence training (if convergence be defective often relieve hyperphoric symptom entirely.

6. In properly selected cases, the vertical prism has a field of pronounced usefulness.

7. If used conservatively, prism corrections ought to be of service in 75% of all cases.

8. Tenotomy should be absolutely the last resort. If cases are properly studied and treated, not more than 2% to 4% of all cases should come to operation.

9. No problem is worthy of deeper study.

Circumscribed tenderness is especially significant of the location of a foreign body. Making allowance for the tenderness due to infection, when this is present, a point of persistent maximum tenderness is fairly diagnostic of the location of the body beneath that point. By pressure, with the finger tip or a slender instrument, on one spot after another in the suspected region, one may elicit only a single point of tender, or a point of maximal, and several adjacent points of lesser tenderness. The single or maximal point indicates usually the location of the most superficial part of the foreign body, especially if it be a needle or sharp splinter of glass, wood, etc.; the points of lesser tenderness map out, in a rough way, the general direction of the body.—*American Journal of Surgery.*

SMALLPOX; VACCINATION.

Incited by an editorial in *American Medicine,* criticizing certain statistics of Kitasato and the British Royal Commission which throw doubt on the long duration of vaccination immunity, A. W. LESCOHIER, Detroit (*Journal A. M. A.,* August 16, publishes the results of his own investigation of 215 patients revaccinated from one to thirty years after a successful vaccination. He finds a surprisingly large number of successful "takes" though varying greatly in the different intervals. Thus he found 28 per cent. successful after a year after the last successful vaccination, 33 per cent. after two years, 48 per cent. after three years, 50 per cent. after five years, 85 per cent. after ten years, and 91 per cent. after eleven years. The numbers of cases at each interval were not large, and this must be considered, but on the whole his findings accord fairly well with those of Kitasato, who deduced from his own investigations that immunity is practically *nil* after ten years. Lescohier admits that these figures can hardly show the actual immunity given by one successful vaccination, as it is reasonable to suppose that higher resistance would be required against a direct inoculation than against infection in the usual way.It is, moreover, a universal experience that smallpox is rare in individuals who have been vaccinated within five or six years. Still he thinks the country is not adequately protected and there is too great an apathy in regard to revaccination even amongst the medical profession.

APPENDIX ABSCESS DISCHARGES PUS INTO THE URINARY TRACT.—C. L. ANDREWS, M.D., Roanoke, Va. *Read before Medical So. of Va. at Norfolk, published in Va. Medical Semi-Mon. Jan. 1913.*

Andrews reports four cases, all proven by operative findings and mentions a number of cases found by others. His conclusions are: 1st. In all of these cases, except three, where the history was possible, evidence of attacks of abdominal pain during childhood was obtained therefore, the adhesions must have begun in most cases while the appendix was yet a pelvic organ. This was undoubtedly true in Dr. Keen's case, as pointed out by him; the appendix was long and had a normal meso-appendix.

2nd. All of these appendices ran a chronic course and caused repeated attacks of abdominal pain, which could have been relieved by operation long before they became appendicular-urinary sinuses of more serious consequences.

3rd. These cases emphasize the great importance of careful urinary analysis, especially microscopical analysis of all cases suffering with attacks of abdominal pain, keeping in mind the occasional occurrence of appendix abscesses which may discharge pus into the urinary tract.

G. D. L.

DIPHTHERIA CARRIERS.

A. M. ALDEN, Iowa City, Iowa (*Journal A. M. A.,* June 14) says that according to the experience of the Iowa health board, the average duration of the presence of the diphtheria bacillus after recovery in virulent cases is about sixteen days, but they have had many cases in which it is much longer in spite of all local treatment. They have employed the staphylococcus spray treatment and give the results in the first sixteen cases. These have led the State Board of Health to decide to use it in all cases of persistent carriers. The culture used by them was a composite one made by mixing three equal portions of three different strains of *Staphylococcus pyogenes aureus* isolated from throat cultures. It seems to be more thorough than other applications in these cases. In all but one of the sixteen cases, a negative culture was obtained within a week after the beginning of the treatment and the failure in the one is accounted for as possibly due to imperfect application or inactivity of the culture. They think the following conclusions are warranted: "1. No patient having had diphtheria should be released from quarantine until at least two consecutive negative cultures are obtained from both nose and throat, and ear, if symptoms are present. 2. Antitoxin will not free the patient from the carrier condition but some local application is necessary to rid the throat and nasal passages of *B diphtheria.* 3. In fifteen out of sixteen cases the staphylococcus spray effectively cleared the throat of *B. diphtheriae* after other methods had failed. 4. Apparently no harm results to the patient from the use of the spray."

LOSCOHLEN AND CLOSSON: PITUITARY EXTRACT IN OBSTETRICS AND GYNECOLOGY. J. Mich. St. Soc., 1912, xi. 650. By *Surg. Gynec. & Obst.*

Loscohlen and Closson, writing from Parke Davis & Co.'s laboratory, state that from this limited clinical use of pituitrin they can confirm the observations of others that pituitrin is a very valuable agent in the treatment of uterine inertia, and that administered in the first and second stages of labor, it greatly strengthens the uterine contractions, which in their cases were always rhythmical and never tetanic.

Using dogs, they took tracings of the uterine contractions and blood pressure to determine the effects of pituitrin, which they gave intravenously. In the normal dog they found that the uterine tone was increased simultaneously with a marked increase in blood pressure. The increase in blood pressure is of only very short duration. With lactating animals a more marked effect was noted: decided stimulation of uterine contraction and increase in uterine tone, these effects being less marked as the period of lactation advances. In animals which had just whelped, very marked contractions occurred within one minute of injection. The contractions, which were at first stormy, later became rhythmical and the rhythm and force continued during the period of observation (two hours). In an animal near term, a tracing shows an intense primary contraction appearing on injection. The relaxation from this primary contraction is delayed; later relaxation occurs and regular pains appear which persist during the period of observation.

They have given dogs doses equivalent, according to weight, to 100 cc. in the human, with no untoward effects except a slight temporary glycosuria. In one dog the equivalent of 250 cc. for the human produced considerable uneasiness, some urinary and fæcal activity, and a mild glycosuria which persisted for about three weeks. After the first one or two days the dog's condition was approximately normal and no permanent injurious effects were observed. They have given doses as high as 1 cc. per kilo to dogs near term without inducing labor.

Glycosuria does not become manifest after the use of pituitrin on aniamls for several days, and after enormous doses this may persist for two or three weeks. Relatively large doses are requisite to the production of glycosuria, and they believe that it would never be produced by therapeutic doses. The administration of pituitrin produces a temporary decrease in the normal flow of the pancreatic juice, which is followed by a short increase and then a continued decrease in pancreatic activity. Pituitrin also inhibits the stimulant action of secretion on the activity of the pancreas. They cannot state this action on the pancreas has anything to do with the apparent effect of disturbed sugar metabolism.—N. SPROAT HEANEY.

SURGICAL ASEPSIS.

ED. B. RUSCHLI, M.D., LaFayette, Ind.—*Jour. Ind. State Med Ass'n*, June, 1812.

Ruschli in a lengthy paper read before State Association and highly complimented by his colleagues, makes an earnest plea for more care in surgical work, especially in abdominal and pelvic work. He lays no claim to originality but desires to emphasize the work of the best surgeons. In laparatomies he believes in removing all hair even to the anus, the skin scrubbed for 5 to 15 minutes with soft gauze, green soap and water, soap removed with sterile water, followed by alcohol and ether. In large flabby abdomens he advises a soap poultice for from 3 to 5 hours to soften the skin and in all cases an antiseptic dressing for 12 to 24 hours before operation. The lower bowels should be thoroughly emptied and the vagina cleansed. Operating rooms should not be used for pus cases. The surgeon and assistants should be as thorough as that of the patient except the antiseptics. Patient's head should be separated from the surgical field on account of danger from infection in vomiting or forcible breathing.

In suturing the skin wound he prefers a suture with a needle at each end, passing needles from inside out, to prevent possibility of carrying skin bacteria into the wound.

The surgeon should take as much care in dressing a wound after operation as for the operation itself. An infected surgical wound means that the patient should have it dressed daily, which is usually painful and disagreeable, and the suppuration is a drain on his system which prolongs convalescence to from six weeks to three months, and may involve more important organs resulting in death. Remote results are a ghastly scar which is often tender and painful, and in abdominal work may cause postoperative hernia. The best surgeon is the one who takes the greatest care in his work, not the one who can operate rapidly and fearlessly. —G. D. L.

INTUBATION.—W. D. HASKINS, M.D., Indianapolis, in June *Med. Jour.*, has a valuable article on "A Series of Intubations." He thus summarizes: 1. Any child that is hoarse or croupy is sufficiently ill to need attention of a physician.

2. Only safe way to regard croup is to see in every case a possibility of diphtheria; to isolate it and take cultures.

3. Any case of croup that is continuous and progressive is probably not simple catarrhal croup, but diphtheria, and should be given antitoxin.

4. In any case with hoarseness and sufficient difficulty in breathing to cause restlessness, anxiety or evident distress, intubation should be performed early. It is folly to wait for signs of impending death.

5. Early recognition of these croup cases, and timely intubation will reduce death rate from and time intubation will reduce death rate from 95 to 25 per cent. or less.—G. D. L.

The West Virginia Medical Journal

Published Monthly
by
The W. Va. State Medical Assoication

Under the Direction
of the
Committee on Publication.

COMMITTEE ON PUBLICATION:
S. L. JEPSON, Chairman.
L. D. WILSON. G. D. LIND. C. A. WINGERTER.

Entered as second-class matter August 10, 1906, at the Post Office at Wheeling, W. Va.

Vol. 8—No. 10. WHEELING, W. VA., APRIL, 1914 Subscription Price $1.00 per Year Single Copies 15 Cents.

Original Articles

*PHYSIOLOGIC AND PATHOLOGIC RELATIONS OF THE EYE AND ACCESSORY SINUSES OF THE NOSE.

C. B. Wylie, M.D., Morgantown, W. Va.

After selecting this subject, which has been of considerable interest to me recently, I began looking up the literature to ascertain what other men had said on the subject, in order that I might make comparisons, and was soon brought to a realization of the fact that what I could possibly say has already been said by a number of very eminent men, so that I fear what I may present on this subject will be more or less a repetition of what has already been said, the effect of which will carry much more weight than anything which I might say. However, after giving a brief anatomical description of the relationship, both of the osseous and nervous anatomy of the eye to the accessory sinuses of the nose, I shall attempt to describe a few interesting cases which I have had in my practice during the last year.

In order that we may have a comprehensive idea of the relationship existing between the eye and the accessory sinuses of the nose, it is necessary to have a fair anatomical knowledge, not only of the osseous parts, but of the sensory nerve distribution as well. Without this an intelligent appreciation of the nervous and pathological reflex symptoms would be difficult of interpretation.

With the greater portion of the floor of the orbital cavity in close proximity to the maxillary sinuses, the internal lateral wall to the ethmoidal and sphenoidal sinus, and the superior plate anterior to the frontal sinus, we can readily appreciate the close anatomical relationship existing between these parts. While as a rule a thin, bony wall separates the sinuses from the orbit, it is not infrequent that we find dehiscences of the bone which leave only mucous membrane dividing them.

The nervous anatomy can best be understood by briefly tracing the sensory branches of the fifth nerve from the gasserian ganglion to the termination of its branches: Beginning with the gasserian, which lies in a depression at the inner end of the petrous bone, the nerve divides into three branches, the ophthalmic, the superior maxillary and the inferior maxillary, the two upper branches being entirely sensory, while the lower trunk unites with the motor root supplying muscles of mastication.

From the ophthalmic division there is given off a meningeal branch to the tentorium cerebelli and supplies nerves of sensation to the eyeball, conjunctiva, lachrymal gland, nasal fossa and skin of the nose, eyebrow and forehead. It receives branches of communication from the cavernous plexus of the sympathetic, and from the third, sixth and occasionally the fourth; the lenticular ganglion situated in the orbit receives a branch from the nasal nerve and sends nerves to ciliary muscle and iris. The superior maxillary division gives off a meningeal branch and supplies nerves of sensa-

*Read before the American Academy of Ophthalmology and Oto-Laryngology at Chattanooga, Tenn., October, 1913.

tion to the upper teeth, lip, cheek, temple and the lachrymal apparatus.

The spheno-palatine ganglion, which lies in the spheno-maxillary fossa, receives a branch from these nerves, one from the carotid plexus (the Vidian), a branch from the facial, and sends nerves to the pharynx, palate, turbinate bones and floor of the nose.

The association of the nasal and orbital nerve supply is even closer than that of the circulatory system. The nasal nerve, which is a branch of the ophthalmic division or the fifth cranial nerve, passes through the orbit to the anterior ethmoidal foramen, then back to the cranial cavity in the region of the cribriform plate of the ethmoid, which it pierces to enter the nasal cavity to supply its anterior half. Its orbital branches are the two long ciliary nerves, the intra-trochlear nerve and a branch to the lenticular ganglion.

The ophthalmic artery, which sends off anterior and posteror ethmoidal branches and the nasal artery. Returning from the nose the ethmoidal veins enter into the superior ophthalmic vein, and as the orbital veins have no valves blood may pass in any direction.

The venous plexuses of the turbinate bodies empty into the pterygoid plexus and are in direct communication with the orbit by way of the branch to the inferior ophthalmic vein. Thus it is easy for organisms or their toxic products originating in the nasal accessory sinuses to reach the interior of the eye through the ciliary vessels, which are branches of the above mentioned arteries and veins.

The chronic forms of sinusitis present a large number of eye symptoms with comparatively no manifestations of nasal trouble. In the suppurative form of sinusitis the middle turbinate body will be found in a state of hypertrophy, and the ethmoidal cells will break down under slight pressure; the discharge will be thick and tenacious, with usually more or less odor, depending on the extent of retention of pus and necrosis.

In the chronic non-suppurative form of sinusitis the ocular manifestations will be more obscure and uncertain than in the suppurative variety. In this form the middle turbinate is somewhat enlarged, which will probably show some polypoid degeneration on its under surface. If the middle turbinate lies close to the external wall the polypoid degeneration may not be manifest in the early stages, but later will appear at the lower margin at the anterior end of the turbinate. The ethmoidal cells are generally filled with polypi, with frequent destruction of the intervening partitions due to pressure. Along with this condition, oftentimes on account of the intra-sinus pressure, ocular structures may be affected through dehiscences in the bony partition, resulting in pressure upon the extra-ocular muscles, causing a train of symptoms tending to eye strain and more or less nervous phenomena. Both of these forms obstruct more or less the circulation and account for symptoms caused by the vascular changes.

The orbital manifestations of chronic hyperplastic ethmoiditis are of special interest, not only on account of the obscure picture which they often present, but also on account of the frequency with which they appear. These are naturally of a mechanical origin, due either to the intra-cellular pressure from the hypertrophied mucous membrane, or from stasis in the hematogenous or lymph channels, or both. These may interfere with the mobility of the globe irritate the optic nerve through pressure, produce changes in refraction or disturbance of physiological lachrymation.

The subjective symptoms consist of scotoma, neuralgia, pain in the eye, ciliary neuralgia and photophobia. In severe cases vaso-motor disturbances, such as hyperemia of conjunctiva and edema of eyelids and peri-orbital tissues may occur. The appearance of these reflex neuroses is but to be expected when one recalls that the orbital and nasal cavities are supplied by the same sensory nerve.

In selecting the following cases which I wish to report I shall present those which gave definite ocular symptoms without any evidence of previous sinus involvement, as has been demonstrated by the promptness with which ocular symptoms disappeared when the sinus trouble was corrected.

CASE 1. Miss A., age thirty-five, was referred to me with a history that for about two years she had had headaches, deep seated between the eyes, and at times ocular pains. The symptoms were aggravated by use of the eyes for near work, especially during the menstrual period; they had been growing progressively worse.

On examination vision in both eyes was practically normal. Fundus examination showed considerable congestion of the optic disk; otherwise a normal fundus. On examining the nose a badly

deflected septum, very much thickened at the posterior end, was found, with considerable hypertrophy of the right middle turbinate.

An operation was advised for correction of the trouble, which was accepted. The hypertrophied portion of the middle turbinate was removed and a submucous resection of the septum done. On removing the deflected portion of the vertical plate of the ethmoid bone, on approaching near its posterior border, a large healthy pneumatic cell was encountered, with apparently no opening leading from it. While cutting away the edges of the cell with the bone biting forceps another cavity was broken into, which proved to be the sphenoidal sinus, filled almost completely with granulation tissue. After making the opening as large as possible into this cell two large masses of granulation tissue were removed, which proved to be a complete cast of the sinus. As there was no opportunity for after treatment through this channel, a search was made for the natural opening in the right nostril and it was found to be quite small. A generous opening was made down to the floor of the sinus and each nostril packed to coapt the layers of the septum. After the septum wound had healed and the sinus treated for two weeks the headaches and ocular pains disappeared, and so far there has been no return of the trouble.

CASE 2. Miss B., age twenty-five, stenographer, for nine months had been suffering from repeated attacks of deep-seated headaches, far back between the eyes, with considerable mental depression. Examination showed vision of right eye 20/20, left eye 20/40. Fundus examination was negative.

There was no history of nasal trouble, but as the eye symptoms gave no definite clue to the cause, an examination of the nasal cavity was made which disclosed a very much enlarged posterior end of the left middle turbinate.

I advised the removal of this hypertrophied part, which was agreed to. After snaring off about one-third of the posterior end I was able to locate the opening of the sphenoidal sinus. A canula was then passed into the sinus and a considerable quantity of foul-smelling, dark green pus was syphoned out, after which, on searching the sinus with a probe, I discovered what appeared to be a dehiscence in the bone in the left wall near the roof. After enlarging the opening the patient was placed in a recumbent position and the sinus filled with a 12% phenol-glycerin solution, which was allowed to remain for twenty minutes. This was repeated every other day for about two weeks, at the end of which time the headaches and mental depression had both disappeared, with vision in both eyes 20/20.

CASE 3. Mr. C., age thirty-two, farmer, complained of pain in the eyes, photophobia and more or less dimness of vision for the last five months.

On examination vision of right eye was found to be 20/20, left eye 20/40, with pronounced displacement of left eye outward, with marked diplopia, one image being more distinct than the other. There was no special tenderness or discoloration of the eye. Fundus examination showed congestion of the disk and retina.

Nasal examination disclosed an enlarged middle turbinate on the right side, with polypus showing under it. On removing the anterior end of this bone a small polypus came away, and what appeared to be a pedical of another growth, which had been cut off by the snare, was projecting into the opening. This was grasped by forceps, and after considerable manipulation and traction was removed and proved to be a polypoid growth one and one-fourth inches long and three-eighths of an inch broad. The direction from which it came disclosed the fact that the bulla ethmoidalis had been destroyed and a dehiscence in the orbital wall, permitting the growth to pass through from the ethmoidal cell to the orbital cavity and back part way around the globe. This opening was packed lightly with antiseptic dressing and in ten days' time had entirely closed. Two weeks later the globe had receded to its normal position, vision became 20/20 in both eyes and binocular single vision was again restored.

CASE 4. Mr. D., age thirty-five, bookkeeper, had for some six months complained of headaches and inability to use his eyes for close work without great aggravation of symptoms, with at times intra-ocular pains which radiated to occiput.

On examination his vision in both eyes was 20/30, with some blurring; fundus examination showed hyperemia of the disk, with some congestion in the retina, both eyes being much the same.

Nasal examination showed enlargement of middle turbinate on both sides, pressing both on the septum and the lateral wall. Some pledgets of cotton, previously saturated with adrenalin, were placed in each nostril, which were allowed to remain about ten minutes After they had been removed the patient expressed a feeling of greater comfort in his eyes that he had experienced in a long time.

A partial removal of each middle turbinate was done, and after healing had taken place the ocular symptoms entirely disappeared, and in two weeks' time vision in both eyes was 20/20 and has remained so to the present time.

CASE 5. Mr. E., age forty, for the last two years had complained of headache and photophobia, with more or less vertigo upon using the eyes for close work. Vision 20/20 in the right eye, 20/40 in the left eye. Fundus examination showed retina pale and vessels but partly filled.

On examining the nose the septum was found to be deflected to right side, pressing on the posterior half of the middle turbinate bone. This was corrected by a submucous resection of the septum, after which the ostium of the sphenoid sinus was located, which was unusually small.

On passing a canula into the sinus the mucous membrane was found to be very much thickened and spongy, showing a chronic non-suppurative condition. The opening was enlarged down to the floor of the sinus, the patient was placed in a recumbent position and the sinus filled with a 10% phenol-glycerin, which was allowed to remain fifteen minutes. This treatment was repeated every other day for ten days, at the end of which time the symptoms complained of had all disappeared; vision was 20/40 in both eyes, and he was able to do close work with comfort.

The immediate and pronounced favorable results obtained from surgical treatment of these accessory cavities should be further

proof of the relationship existing between the nose and the eyes.

The opinions of different investigators differ somewhat as to which sinuses are most frequently involved in producing these obscure symptoms. I think the concensus of opinion, however, is that the ethmoidal, sphenoidal and maxillary sinuses, in the order named, are most frequently involved.

I am in hearty accord with Brawley, who says: "When one considers the very intimate relationship between the orbital contents and the nasal accessory sinuses by way of the nerves, blood vessels and lymphatics it is remarkable that sinus empyema does not oftener cause serious ocular disease."

When we consider that the orbit is from one-half to two-thirds surrounded by bony cavities, which are in direct communication with the nose, it is not hard to realize that pathological changes of these cavities may profoundly affect the ocular structures. The thickness of the bony wall between the orbit and sinuses varies considerably, and in the majority of cases is quite thin, varying from one-fourth to two millimeters in thickness, and at times is found to contain dehiscences of variable size, which admit of one cavity being readily affected by pathological conditions of the other; the influences are probably the most marked where optic chiasm and nerve are in such close proximity to the sphenoidal sinus.

The liability of the optic nerve to become affected in sphenoidal sinus involvement is due in part to the fact that the nerve is not in a strict sense a nerve at all, but a central inter-cerebral cord (Spalteholz), having covering similar to the brain and spinal cord, and the fact that it has a higher specialized function makes it more easily affected by pathological changes around it, while at the same time the absence of sensation makes disease in this tract insidious.

As we go into the minutia of the parts involved and study more carefully their relationship and by careful observation of clinical cases, together with transillumination and skiagraphic plates, thus become more able to appreciate what many of the hitherto illy-defined and obscure symptoms mean, we must conclude that we have long been groping in the dark as to the cause for many of the abnormal ocular manifestations; but a closer study and a more careful watch of our cases of this nature cannot fail of a satisfactory explanation for many of them.

THE STATE DEPARTMENT OF HEALTH.

F. V. Beitler, M.D., Halethorp, Md.,
Chief of Bureau of Vital Statistics.

(Read at Annual Meeting of State Medical Ass'n. May, 1913.)

Practically all the legislatures of the various states in the Union have in the past few years had presented to them in a more forcible manner than ever certain large problems which by virtue of absolute necessity or public clamor compelled the construction of certain legislation as a means to either rectify or aid in the solution of these problems. Among the problems of greater importance the care of the health of the individual of the state stands among the foremost.

We all know that for many years certain efforts which were for a great part inadequate had been made to cope with the preservation of the health of the citizens of the various states. These efforts at first were directed chiefly in the line of suppression of certain infectious diseases. Those, of course, which were of most frequent occurrence and created the greatest havoc were the ones to which the most attention was directed.

It is within the memory of most of us that shotgun quarantines within various southern states were established in order to prevent the spread of yellow fever. These early efforts, while absolutely sincere, were in a great measure misdirected, and certain of the older methods now appear not only absurd but more or less humorous. For instance the isolation, without screening from mosquitoes, of all persons coming from yellow fever infested districts, while the mosquito which propagated and carried the virus of this disease was allowed to multiply in untold millions in old cans, bottles, rain barrels and practically everything which during the rainy season would hold water

This condition of affairs, to a certain extent, exists today in a proportion of the methods used to prevent certain of the infectious or contagious diseases. However, the day of such methods is fast disappearing and preventive medicine has emerged

from a great field of conjecture and speculation into a well grounded and useful science, which, dollar for dollar, pays the state or community a greater dividend than any investment which the people can make.

From a primary effort to prevent the spread of infectious diseases of various kinds this particular branch of medicine has developed a large group of sub-branches, which in their administrations are very far-reaching. For instance, a Department of Health at present no longer consists of an advisory board and a secretary who communicates with various local physicians, or in the case of great emergencies taking advantage of certain powers given him by certain laws, but it is a department with a number of organized bureaus which upon short notice can give him the birth rate and death rate at any particular locality in the State, or of the State as a whole; which can give him the actual mortality from any specific disease in any locality, or of the State as a whole; of a bureau that can inform him of the prevalence of certain diseases in certain localities, or of the State as a whole; that can inform him perhaps of the appearance of certain diseases at certain times in certain localities; of a bureau that is acquainted with the water supplies of the State, and which bureau can give him an accurate idea of the chemical and bacteriological findings of the majority of waters in any particular locality in the State, can give him an idea when certain waters are bad, or where to bore for better waters; of a bureau that makes the disposition of sewage and waste a science, that would be able to point out to the citizens the best and most economical means of sewage disposal or the institution of water supplies; and of a bureau which has supervision over the foods and drugs of the State, and which bureau can within a short time give an accurate idea of the wholesomeness of various food products, of the record of handlers of drugs within the State, of the condition of the various manufactories for canning or preserving foods in the State, etc.

Bureaus of this kind, linked with the proper chemical and bacteriological laboratories to carry out such investigations, are necessary, particularly for the examination of water and milk, to determine the efficiency of disinfectants which are to be used from time to time, all co-operate in making an efficient Department of Health.

I would not be so presumptuous as to make any particular suggestion for a scheme for the administration of public health problems for any State, but there are, if you will allow me to present them to you, a number of points which stand out pre-eminently, and which must be considered by any group of citizens of the State who contemplate either revising old laws or instituting new laws for the administration of public health. Tasks of this character are usually imposed upon the medical profession within that State, since they are usually the first citizens of the State to call the attention of the authorities and citizens to certain needed regulations; and, second, the State Medical Association is looked upon by the citizens of a State and by the authorities of a State as a representative body through which such recommendations should come. Granting, then, that it is the State Medical Association which must make such recommendations and pleas to the legislators of a State, the members must bear in mind certain cardinal features which will undoubtedly render any legislation which they will obtain either efficient or inefficient.

The very first consideration, of course, should be that of the administrative body—that is, the composition of the State Board of Health. Provision should be made for a board the members of which should be men who are interested, of good principle and sound judgment, to serve without pay, except perhaps for their expenses to and from their board meetings, and such expenses as are incurred while attending board meetings. The appointment of these members should be so arranged that at no time will there be a chance to juggle or change a majority of the members of the board. Second, after having established a method to appoint a certain type of men as members of the board your efforts should be directed toward the construction of what might be termed broad legislation—that is, legislation which is not drafted to meet a particular present need, but that sort of legislation which will meet the demands of new conditions as they arise in the future. The lack of this legislation is one of the inherent faults in a number of existing codes, which were admirable at the time of their passage, but are now in a manner obsolete.

After these two primary considerations for the establishment of a Department of Health with a properly constituted board, that board having been given, by virtue of broad legislation, proper powers for regulations, your efforts must be directed to the incorporation in your draft of a provision for the establishment of certain specialized branches of public health work under the head of bureaus. The essential branches to be established would, of course, be a Bureau of Sanitary Engineering, a Bureau of Vital Statistics, a Bureau of Infectious Diseases, a Bureau of Chemistry, and a Bureau of Bacteriology. The work of the latter two bureaus would to a great extent be laboratory work. To this might be added, whenever it became necessary, a Bureau of Food and Drugs, which is to all intents and purposes another specialized branch of this work. The advantage of the division of the work of the department into bureaus can be readily ascertained when we know that at the head of each bureau can be placed a competent man who should become a specialist in this particular branch of preventive medicine, who is also a specialist in the interpretation of legal matter pertaining to his department, and who at the same time will relieve the executive officer of the board of work to which he could not possibly attend. One cannot imagine, unless he has been in the service, the mass of detail work which must be handled in any particular bureau which is making a conscientious effort to obtain results.

As practical illustrations of the good to be gained from the division of a Department of Health into bureaus, under the direction of a chief in each bureau, I would point out some of the work which has taken place in the State Department of Health of Maryland, where the bureau system has been established and operated for about three or four years.

At a word from the executive secretary the Bureau of Vital Statistics is able to give the birth rate and death rate, rates of increase or decrease of population within a few hours' notice, is able to give the deaths from various causes in various locations within a few hours' notice. It can compile statistics which are the ground work or basis for practically the majority of measures instituted to combat disease, is able at subsequent dates to compile statistics which will be a measure of the efficiency of any methods which have been instituted to combat diseases of any kind within the State.

In the operation of certain laws, such as child labor laws and compulsory school laws, it is again the Bureau of Vital Statistics which must produce the records and make certifications to certain facts, in order that the provisions of these laws, which have a direct bearing on public health, might be carried out.

Again, the work in a Bureau of Infectious Diseases under a separate chief would be able to give the morbidity statistics daily, would be able to point out unusual morbidity from any disease in any particular location, make recommendations for the institution of means for the alleviation of epidemics or alarming increase of infectious diseases in any locality.

The Bureau of Sanitary Engineering is able to give the results of investigations relative to water supplies, sewage disposal plants, give the results of sanitary surveys of various investigations of waterways, etc., in the State.

I might take up the work of each bureau in turn and give an epitome of its work and its value, but it is sufficient to say that the knowledge that comes from specialization in each one of these branches is indispensable to the proper administration of health work.

In conclusion, it is only fair to state that with all the aid that comes from specialization in these various branches, and even after most excellent legislation and co-operation of authorities, the path of a worker in a Department of Health is a rather rough one. Administrative results cannot be obtained by a cross-fire of communications in any one of these branches, even after almost perfect systems of registration and classification of the various kinds of information which is needed have been established.

There will always be a number of men, both professional and otherwise, who do not take kindly to the duties or restrictions imposed upon them by these laws. There will also be occasional discouraging results in particular enterprises in the majority of instances among the indigent of your citizens, in whom it is hard to instil the ideas of prevention and sanitation, and you will undoubtedly meet a certain amount of opposition from certain members of your own profession.

However, when it is all said and done, the Board of Health which sticks everlastingly to a clean administration with an open mind, common sense and improved methods will see results that will in the end convince even the most skeptical.

THE NEED OF STATE-WIDE SANITARY INSPECTION.

W. A. McMillan, M.D.,
Charleston, W. Va.

(Read at Annual Meeting of State Medical Ass'n, May, 1913.)

The State of West Virginia is about to celebrate its fiftieth birthday. At this important event, which will be held in the city of Wheeling the coming June, our prominent citizens as well as visiting statesmen of our nation will praise us for our virtues, our accomplishments and the great natural resources of our State. In so doing they can find no greater opportunity for speaking most truthfully of the people of our State in the many worthy accomplishments of our government. For our years of statehood we have furnished our people with State institutions very creditable for the present age. In spite of the great lot of bad advertising and mud slinging of a certain United States Senator with Socialistic sentiments we have stood on the side of law and order, putting forth every effort to accomplish peace and prosperity within our State. It has been rather unfortunate for the citizens of West Virginia that a feeling of unrest and misunderstanding between labor and capital should have existed during the past year, and upon quiet reflection we can all agree that the people of our State if left alone would have had no such dispute between labor and capital. Paid imported agitators found our prosperous coal fields a fertile ground upon which to spread the seeds of dissatisfaction.

During this period it has been my privilege to serve seven or eight weeks in the Paint and Cabin Creek districts in the capacity of sanitary officer. From observations made during this time I am of the opinion that had we a more rigid system of sanitary inspection the living conditions of our State would be such as would bring about more contentment and a happier and healthier people. The reports of our hospitals show a large percentage of typhoid fever taken from the coal fields. In fact a very large percentage of typhoid fever treated in the city of Charleston since our new filter plant was installed originated in the coal fields and small towns adjoining, where the drinking water supply is easily contaminated by faulty sanitation. Nor does this apply only to the Kanawha valley coal fields.

Before attempting to address your honorable body on this very important subject I wrote a few of my professional friends in the leading cities of our State, asking for a brief criticism of the sanitary condition of their respective cities. To my friends who had the patience and time to reply I am greatly indebted, especially to Dr. Jepson of Wheeling and Dr. Osborn of Clarksburg.

Doctor Jepson voices the average sentiments of the physicians of our State when he says: "I give it as my opinion that the gravest sanitary defect of this, as perhaps of almost every other city, is the abominable privy system. The city is filled with outdoor vaults, shallow, exposed, hundreds filled all the time, after heavy rains often overflowing, poisoning the atmosphere and scattering the seeds of disease broadcast." Even though we should be deprived of one or more of our senses we could not dispute the fact that great sanitary irregularity exists. It is a very easy matter for us to criticize those in authority as municipal health officers. We are familiar with the howl of both laity and profession on this all-important subject. We are always more ready to condemn than to aid our fellow physician acting in the capacity of health officer of our respective cities. The office is one paying a very small salary, making him still dependent upon his general practice for a living, and with the criticism of the people as well as the flimsy State law back of him, it places the local health officer often in a very trying position. Such are the conditions facing us in our public health problem in the State of West Virginia at the present. We all look forward to a better solution of our public health problem and the time when our federal government will realize it to such a degree as to give to the people of the United States a bureau of public health With centralization of our public health will come a time when the violation of a health ordinance will be just as serious a crime as

the violation of our postal law system in the use of a postage stamp twice. The indiscreet spreading of disease by contamination of streams of drinking water and of food products, spitting in public places, etc., must surely stop, for, as the great Pasteur said: "It is within the power of man to eliminate the infectious diseases from the face of the earth."

Then if our beloved State has the men and means, why should we not put forth a sincere effort at the next meeting of our legislature for an appropriation which will do credit to our State in the way of establishing a public health laboratory with State Commissioner of Public Health, the duties to be practically the same as those of the Commissioner of Health of the State of Pennsylvania?

I am greatly indebted to Doctor Samuel G. Dixon, whom the State of Pennsylvania has the honor of having at the head of this important department. The great work accomplished by this Department of Public Health of Pennsylvania has been an object lesson to every State in the Union. And West Virginia only appropriates the measly sum of *$2,500 yearly for public health needs. This is simply disgraceful legislation. I believe much more is spent in protection of the hogs of West Virginia by the Secretary of Agriculture.

I want to say further that should an epidemic of typhoid fever, amoebic dysentery, yellow fever, etc., develop in our State our friends of the United States Hospital Marine Corps would be within our boundary in 24 hours to investigate the cause and deliver the remedy. This is a day of preventive medicine, and why should we not be just as enthusiastic in guarding our public health as to usher in remedies to correct our blunders?

The Adjutant General Department of our State has been greatly benefited by the very valuable services during the past year of Major I. C. Jenks, U. S. A., whom the United States Government at Washington saw fit to have detailed as an instructor to our State troops. If the citizens can secure the services of such a valuable man to instruct our troops in modern warfare, why can we not secure like services of a sanitary instructor from either the United States Hospital Marine Corps or the Medical Corps, U. S. A.? These men are trained sanitary officers, whose life work has been entirely along this line. The great sanitary accomplishments of just such men have made the digging of the Panama canal possible. The great work of our sanitary officers in what was a few years ago considered the pest hole of the world has made what is now one of the most eagerly sought after resorts for tourists.

This and other great accomplishments of our trained sanitary officers is sufficient cause for us to make an early bid for such an instructor. The fact, too, must be appreciated that such a detail would lift the public health of our citizens out of the clutches of our politicians. With the aid of such a man how much more easily could our municipal health officers compel occupants of unsanitary quarters to clean up and holders of property to make the same sanitary. Then would we drift out of the age of public dumping grounds, of tin cans and other filthy fly-feeding garbage located in the very heart of our cities, such material being taken to a point remote from the city limits and there to be destroyed by burning.

The city of Chicago some time ago recognized the need and the value of such service and secured Surgeon Young as Health Commissioner of the city.

In closing let me say that by working in harmony towards this end much good can be accomplished.

The State has been put to an unfortunate expenditure of nearly half a million dollars to quell the unrest and unhappiness that was easily brought about in the homes where sanitation was apparently disregarded. You will agree with me that people are better morally, mentally, socially and financially where they are taught the laws of sanitary living, the art of beautifying their homes, and one of the secrets of success is that if you earn two dollars a day you should save one. It is only by the loyal, united effort of the citizens of West Virginia that all these economical and sanitary measures can be worked out.

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*Increased to $15,000 by the last legislature.—EDITOR.

What appears like a mild cellulitis or beginning erysipelas following a rat bite is apt to be the local manifestation of a "rat-bite fever."—*American Jour. of Surgery.*

COMMERCIALISM VS. ETHICS.

J. E. McDonald, B.S., M.D.,
Logan, W. Va.

(Read at Annual Meeting of State Medical Ass'n, May, 1913.)

"There is so much bad in the best of us,
And so much good in the worst of us,
That it hardly behooves any of us
To talk about the rest of us."

The old saying that it takes a rascal to catch one is not entirely out of keeping in this case, because much of what I have to say directly refers to contract work or monthly fee practice in mines and lumber camps, and for a few years I had some actual experience, and had my health and politics been in keeping with a pull and my finances necessitated, I might yet be getting the remuneration of the game, but my fifteen years in the very threshold of its workings enables me to say what I do without fear of contradiction.

Today with twenty doctors in our county I am one of the four who don't do contract work, but, strange to say, we are all on good social footing with a possible exception. But it is my object here to show that ethics as expounded and taught by the American Medical Association has a limited significance with professional men who successfully handle contract or compulsory stipulated fee work.

Now let me define ethics with six words beginning with the six letters of the word Ethics: Earn Thy Help In Companionable Service: but companionable service means different service with varied surroundings, yet it is our most important commandment. Commercialism means the prostitution of this commandment for financial gain or the bartering of professional prestige under a state medical license.

Now that many of us start out bartering our services in a commercial way is no more than should be expected when we recall the surroundings and precepts of many of the medical schools which conduct us to the state license door for examination. Many of us have been tutored by a number of busy practitioners who extract their remuneration from the public through and by the prestige of the professorship they hold. We had no individual, personal training except through adjuncts or assistants. Collectively you could extract no more than three to six hours per week from any professor—not enough individuality from him to ever recognize you a year hence. They don't extol the dignity of the profession, but rather teach us by precept from their busy attitude that it is largely a game for its financial end, so when we are possessed of a state medical license we immediately begin to look for a good thing, and to a dead certainty there is no field of practice where efficiency counts for so little as contract practice. And permit me here to definitely allude to this field where ethics consist largely of your ability to barter and control, where a pull—generally political—goes much farther than merit. Surroundings with a state medical license furnish the opportunity, and the barter is begun through all the available avenues impressing our friends, political and otherwise, to that end. A few dollars' worth of privilege and a good liberal commission for collecting and we are on—the adjacent operator knows the former had a motive for his act and, being put next, he tumbles and on we go. It is not a matter of efficient or ethical consideration, but a pull—a deal—and you are secure from any contest of merit or efficiency, and the American Medical Association's code of ethics is not permeated with enough commercial advantages for the successful pursuit of today's contract practice. After he is installed with the usual restrictions that the calling of outside physicians without permission means *persona non grata* after pay day to the employe who ignores the admonition, and a stock of empirical formulae tablets in various colored coatings with the usual supply of dressings, being thus seated on his throne, it is immaterial whether they ever call an outside doctor on the work or not. It is the pull and per cent that weighs heaviest with the superintendent and manager, for he knows the efficiency and merit of private practice are not a part of the consideration, but it is a mere combination for the protection of the company and for blood money from the horny hands of toil. It is also true that this physician rarely asks for consultation, barring the sickness in the higher-up families, who happen to live in these camps, and when he does it is another doctor doing this same kind of work, if such is possible, as he never squeals on the other fellow. Now when an

"outsider" is insisted upon, if permitted at all, the mine doctor is at once too busy to meet for consultation, hence allows the outsider to take charge of the case. It too often happens that it is a hopeless case, and it is one long remembered for citation when that physician is subsequently mentioned. On the other hand, if the patient makes a recovery, the first time you meet the camp physician out comes his little hammer for a knock with a squall of "ethics" in your ear. These calls, as I said, are rare because it is pretty generally understood and often demonstrated that a man insisting on service from an outside doctor is not needed at the mine, and the operators of adjacent camps don't often employ one so discharged, so no matter how unskillful or inefficient the work the camp doctor is most securely protected; also the outside physician well knows that the operator will under no circumstances protect his fee by office collection or retention, making his work as undesirable and unremunerative as possible. It may also be cited that labor cases are taken care of for a fee of five dollars to further handicap the "outsider," and calls to private cases going to and from his mine work are made for fifty cents to one dollar, thereby offering another obstruction to the man in private practice.

Again, in many instances several mines or camps are held by one physician, who in turn employs a new beginner, or some one who has been unsuccessful alone, at a nominal monthly salary to care for this practice while he competes for private practice, and in some instances I have actually known him to charge a patient for consultation when called by this hireling to assist. They have gone further than this in Logan county. Securing a residence by purchase they equipped it as a hospital, and the operators assess a further fee of twenty-five cents monthly for its support so as to further lessen the burden and responsibilities of the more inefficient and secure an operative field for the exultant would-be surgeon at the expense of labor which the state will, no doubt, soon be asked to assume. And let me say, *Miners' hospitals, state-conducted, have no legitimate existence.* They were created under the initiative of shrewd politicians for self political furtherance, and have been so conducted. Why didn't these wise lawmakers give us a farmers' hospital or a common laborers' hospital? Don't all the funds belong to all the people, and if so, why should these funds be specifically designated for the relief and care of mine workers alone—carrying the burden of mine operators and fee-stipulated physicians? I insist it is the duty of every taxpayer, and especially of the West Virginia State Medical Association, to insist on the opening of these hospitals to all deserving indigent practice, and I further insist that each county should be provided with an indigent hospital commensurate with its needs, else let the State abandon the practice of medicine entirely, save at its penal and charitable institutions.

No one knows better than our present Governor that the appropriations for the maintenance of miners' hospitals are illegal and unwarranted save by the special legislation under which they exist.

The lodge doctor and the railroad surgeon, who for a pass signs a special fee schedule, must not be overlooked, and but for lack of space I would quote you the Chesapeake & Ohio railroad schedule. I insist it is a commercial practice, and it is unethical to charge a farmer, or any amply able to pay patient, more for the same service. The Lloyd system in England and the lodge system in Germany, which pay less than two dollars a year per family, are along the same lines as I have discussed, and by our open future conduct alone we can avert the same "millenium."

Our legislature should not hesitate to say that no company, corporation or other person shall collect fees for commercial or speculative medical service, and, further, any physician profiting by such should forfeit his license to practice; that miners' hospitals should be made general hospitals for all worthy indigent cases, and the physicians in charge be absolutely divorced from all other practice and private hospitals be made to publish an annual report of all their work, that the public may know their degree of success or failure. The Governor should select the State Medical Board from an eligible list selected by this association, and this board should relegate to the waste basket all commendatory petitions of applicants appended by prominent and popular politicians.

'Tis true our Supreme Court has held that operators or employers who arbitrarily

collect medical and hospital fees are responsible for proper medical service, but it is an arduous task for the victim to prove negligence or malpractice when commercial physicians with their hirelings face a jury with the apparent details of camp practice surroundings, and if he be a foreigner—and fifty per cent are—the grievous and fatal negligence growing out of his un-Americanized foreign comprehension. The successful co-operation and upbuilding of county and state medical societies through ethical work depends largely on the growth and outcome of these propositions and the fostering and indulgence permitted.

The medical press should teach mannerism and dignity. The medical colleges or universities should all assume a higher plane by denying commercialism from professorship prestige. The surgeon and specialist should be deprived of an equitable amount of their stupenduous fees for the thirty to ninety minutes mechanical service rendered, so that the hours to days of diagnostic service of the bedside physicians could, as it should be, properly and amply remunerated. This alone, in my judgment, would save many lives by lessening the temptation for all to make surgeons or specialists, for there can be no question as to the diagnostician being the hero of medicine.

Let every rebater and barterer be exposed through the medical press—the public press when necessary. Then and not until then can ethics outclass and assert its dominant rights over commercialism; and take it from me the Lloyd and lodge systems can never follow the trail of Columbus to the land of the free and the home of the brave. If not, give us a commercial code of ethics in keeping with our medical and professional surroundings.

The prospect today in many localities is by no means reassuring for many of those who have only private practice, and whether the condition in the United States will become like those in England and Germany I am unable to say, but there is accumulating evidence to show that the profession of medicine will not be the calling of choice by men who aim to secure the highest rewards for their efforts and efficiency.

I know that Apollo swept such harmony from the lyre that the listening gods were charmed and the world acclaimed him Deity of Song. I know that Orpheus with magic strain led rocks and trees and beasts to follow him. I know that Timotheus with wondrous melody subdued the riotous Alexander, awoke within his haughty soul emotion high as heaven and instincts low as hell, but what the brave ethical physicians, who seek no dual path of gain, can do for the commercialistic tendency of the profession remains to be seen. Let us all lend a hand to the elevation of stipulated fee-work, that it may be done conscientiously and its remunerations come without the taint of blood and barter extractions.

THE PRESENT STATUS OF TONSIL AND ADENOID SURGERY.

Ivan Fawcett, M.D., Wheeling, W. Va.

(Read at Annual Meeting of State Medical Ass'n, May, 1913.)

Tonsil surgery has undergone a marked transition during the past five years. Previous to that time tonsillotomy was the operation almost universally elected for the relief of hypertrophy and diseased conditions of this organ. The procedure was a relatively simple one, the only instrument used in most cases being a Mathieu or Mackenzie tonsillotome. The ring blade was made to encircle the tonsil, pressure at the angle of the jaw forced it well through the opening and the blade was pushed home, completing the operation.

Recurrence of the growth in children and continued repeated attacks of acute inflammation in the adult following this operation were very common, indeed, and the general dissatisfaction has led to the adoption of tonsillectomy or complete enucleation, which has now been very generally adopted as the operation of choice and has transformed this previously simple procedure into one of major proportions. While formerly considered a simple office operation it is now confined largely to hospital practice. The complete removal of the tonsil requires considerable dissection to separate it from its bed, a larger number of instruments and their manipulation is necessary and consequently a greater degree of surgical skill is required, not to mention the increased danger from shock and more frequent severe hemorrhage.

At the 1909 meeting of the American Medical Association in Atlantic City, during

a symposium on tonsils, a compilation of fatal cases was presented and it was found that the percentage of fatalities was quite as high from tonsillotomy as from tonsillectomy, but I think this must be due to the fact that tonsillectomy has been largely confined to more experienced hands.

The methods of accomplishing the complete removal are so numerous as to be bewildering. The one in most common use is some form of dull dissection, either with instruments or the finger, followed by the cold wire snare. Other methods are sharp dissection with a scalpel, angular knives, or especially constructed curved scissors, with or without the use of the snare or tonsillotome to complete the operation. The cautery dissection as advocated by Pyncton and that of the tonsillotome followed by the punch may also be mentioned.

No one method is applicable in all cases; each has given satisfaction in competent hands and all serve the purpose in that they remove the tonsil in its entirety.

My own experience has been limited, but the method which I have found most satisfactory is that in use at the New York Eye and Ear Infirmary. It consists in dull dissection with a pair of curved scissors about six inches long, blunt pointed, and jointed at the middle to allow a wide separation of the blades. An incision is made at the junction of the pillar with the tonsil large enough to admit the scissors, which are introduced closed and thrust well back and out between the pillar and tonsil to the base of the fossa, when the blades are opened, thus separating the tonsil from its muscular bed and the pillar. The posterior pillar is separated in like manner and one sweep above and one below is usually sufficient to separate the narrow bridges remaining there. By this method there is no danger of penetrating the capsule into the substance of the tonsil, or of injuring the superior constrictor muscle, both important points, because in the former instance a portion of the tonsil will remain in place and in the latter case severe hemorrhage is very apt to occur. The operation is completed by means of the Eaves snare, as much as two or three minutes being taken for this last step to avoid unnecessary hemorrhage. The adenoids are removed in the ordinary way with a curette and rubbed smooth by means of gauze wrapped about the finger. Following the operation the face is bathed with ice water, which controls the hemorrhage from the adenoids almost immediately.

Another method which has appealed to me from the description is that devised by Greenfield Sluder. You are probably all familiar with the technique, which consists in dislocating the tonsil forward and upward from its bed for a distance of one and a half inches to an eminence or the mandible opposite the last molar tooth, termed by Sluder the alveolar tubercle. He accomplishes this by means of an especially constructed tonsillotome having a dull blade. This encircles the tonsil and pulls it forward over the tubercle when pressure, aided by manipulation with the index finger of the opposite hand, causes it to project entirely through the opening, when the blade is closed, completing its removal. There is no preliminary dissection required.

It resembles very closely the operation for tonsillotomy, the difference being that its author claims to remove the tonsil with its capsule intact. He has been supported in his claims by a number of prominent laryngologists, among them Ballenger, who prophesied that it would replace to a large extent many of the methods in use. It is only applicable in seventy-five per cent of cases, however, since it cannot be used in densely adherent or buried tonsils. I have never had the opportunity of seeing this operation done, and I hope the discussion will reveal the reason why it has not met with a more cordial welcome.

I think the attitude regarding adenoids is unanimous, namely, that where present of sufficient size to give rise to symptoms they should be removed. There is some tendency to regard every case of mouth breathing in children as due to adenoids and an operation is done without a further examination of the nose. While adenoids are the most common cause of nasal obstruction in childhood, the presence of a few enlarged adenoid vegetations does not necessarily preclude the possibility of a child having a nose full of polyps, a badly deflected septum or hypertrophied turbinates. As for the method of removal, it matters not so much whether a curette, adenotome, biting forceps or finger nail is used so long as they are entirely removed and with a minimum amount of hemorrhage and shock to the patient.

A more recent change in tonsil and adenoid surgery is with regard to the indications for removal and the frequency with which the operation should be performed. There has undoubtedly been a great deal of unnecessary surgery performed in this region, and for several years it got to be a craze with both profession and laity to remove the tonsils, many operations being performed without good, definite indications. The appearance in the *Journal of the American Medical Association* last year of a paper by J. N. Mackenzie of the Johns Hopkins Hospital, and its later publication in the New York Sun of Sunday, June 9th, under the title of "Stick to Your Tonsils," has had a profound impression not only on the laryngologist and the profession at large but on the laity as well.

The present tendency is to greater conservatism, resorting to operation on the tonsils, as with other organs, only as a court of last resort, but when definitely indicated to elect the operation which promises permanent relief; the complete removal preferably with the capsule intact.

REPORT OF A CASE OF DOUBLE CRYPTORCHIDISM.

C. E. Grimm, M.D., St. Marys, W.Va.

This case is reported for the following reasons: First, because the condition seldom comes under the physician's notice; secondly, because it is necessary for the physician to be constantly on the lookout for the malformation in order that prompt surgical intervention may be secured, and, thirdly, because an interesting condition was found in this case.

In a rather good hospital experience, extending over two years, the condition has come under my observation, as house surgeon, but twice. The first case was of the double variety and was operated upon very successfully by Dr. Dowd of Jersey City, N. J.

It is my opinion that Dr. Bevan shows good surgical judgment when he says that operation should be performed between the sixth and twelfth years of life.

Descent at puberty is a rare occurrence. It is far better to have the testicle in the scrotum when the changes incident to puberty occur. DaCosta says that late descent causes hernia. "In the double variety, where testicular function has been abolished, epiphyseal fractures are common and there may be excessive growth of the long bones. A retained testicle is especially apt to become inflamed and may undergo sarcomatous changes."

In the Austrian army cryptorchism is discovered once in every five hundred recruits examined.

Mental and physical suffering are often caused by this serious malformation. No physician should feel that he has discharged his duty when he has dismissed such a patient by saying that time alone will correct the condition. Every undescended testicle that can be palpated and some that cannot be palpated should be transplanted.

On June 14th, 1912, Mr. R. M., white, farmer schoolboy, aged 26, entered Grimm's Hospital with the following history: Three years ago he noticed a painful, tender tumor in the region of the left inguinal canal. The pain and tenderness of the mass were increased by straining or coughing since the tumor was first noticed. Because of the exposed position of the tumor it was subjected to frequent injury.

Condition on admission:

The patient was an especially well developed adult male of good musculature. Weight 177 pounds; height, 6 feet 2 inches. Nothing of especial interest was elicited about the head, neck, chest or upper abdomen A tumor the size of a large olive was visible and palpable in the region of the left inguinal canal. It was firm and slightly movable and gave dullness on percussion. The scrotum gave no evidence of the presence of the usual contents. Neither inguinal canal contained a palpable testicle. An abundant growth of pubic hair was present. The penis was apparently normal. The patient had been troubled with nocturnal emissions frequently. A diagnosis of double cryptorchidism was made and operation advised, which was done on June 18th, 1912.

Operation.—Under ether narcosis a double orchidopexy was done after the method advised by Bevan, which follows: A three-inch incision was made on the left side through the skin, fascia and aponeurosis of the external oblique. This incision is the same that is used in performing the Bassini herniotomy. The borders of the wound were then retracted and the cremasteric and the transversalis fasciae divided parallel with the canal. The peritoneal sac connected with the testicle and continuous with the peritoneal cavity was then opened. It was here discovered that the testicle and its vaginal process were diverted from the canal through a false window in the roof of the canal, which prevented the proper descent of the testicle on this side. The margin of the window was incised sufficiently to permit the transference of the testicle to the canal. The vaginal process was divided transversely, separated from the cord underneath and ligated well up to the inguinal ring, as is done in the Bassini operation.

The peritoneum in contact with the testicle was closed with a purse-string suture. The cord being sufficiently long, the testicle was transplanted into the bottom of the scrotum after a pocket had been made for its reception by blunt dissection. The testicle was held in place by means of a purse-string suture passed through the neck of the scrotum, including the superficial fascia and both pillars of the external ring above the cord. The conjoined tendon and Poupart's ligament were brought together by chromic catgut sutures, leaving the cord in the canal. The superficial wound was closed as in a herniotomy.

The procedure on the right side was essentially the same except that the vessels and vas were separated from the peritoneum by the fingers carried along the course of each into the peritoneal cavity, thereby lengthening the cord sufficiently to permit the testicle's transplantation into the scrotum. The testicle was found in the internal ring on this side and the cord was so short that it was necessary to dissect off all the structures of the cord except the vas, the artery to the vas and the spermatic arteries in order to secure the desired lengthening. The skin was sutured with silk mattress sutures and a double spica of the groin applied.

Progress.—The stitches were removed on the fifth day, primary union resulting. The patient was out of bed on the fourteenth day and was discharged cured on the eighteenth day. The left testicle has remained in the bottom of the scrotum. The right testicle retracted until it was just exterr al to the external ring.

By cutting the spermatic arteries and leaving the artery to the vas to nourish the testicle, as advised by Bevan in such cases, it would have been possible to lower the right testicle well into the scrotum. The shortness of the right spermatic arteries was responsible for my failure to get as nice a result on the right side as was obtained on the left side. With the testicle fixed below the external ring with its blood supply intact I felt willing to assume the conservative attitude and to refrain from disturbing the spermatic arteries. The testicle had been transplanted into a place where pressure atrophy and injury are uncommon. Where the spermatic arteries are ligated and severed, as advised by Bevan, the nerves and lymphatics are also divided. The testicle that is already poorly developed is thereby still more hampered by having its source of nourishment cut off. Miffet and Griffiths have come to the conclusion that degenerative changes in the testicles are caused by ligation of the spermatic vessels. They have performed separate sets of experimental operations on dogs to prove their claims. Moscheowitz recently reported in the *Annals of Surgery* his microscopic findings in a number of dogs' testicles from which the spermatic blood supply had been cut off by experimental operations. Some of the testicles showed necrosis of the interior, the periphery being fairly well preserved.

Dr. Charles Davison described a very ingenious operation in the *Blue Journal* for March, 1911, which appeals to me as being a very effective and scientific procedure in cases where the surgeon cannot transplant the testicle by means of the Bevan operation—without ligature of the spermatic arteries. The technique of this operation is as follows:

The inguinal canal is exposed by dissec tion as in the Bassini operation for inguinal hernia. The testicle and cord are freed from the inguinal canal and temporarily laid above the wound out of the field of operation. The posterior wall of the inguinal canal is treated very similarly to the treatment in the Fowler operation in inguinal hernia. After a preliminary double ligature of the deep epigastric artery an incision is made through the posterior wall of the inguinal canal from the internal ring to the pubic bone just beneath the site of the external ring. This destroys the internal ring and exposes the peritoneum with the vas deferens and spermatic vessels lying on it attached by loose cellular tissue. When congenital hernia is present or the processus vaginalis is patulous the peritoneal layer is carefully separated from the cord and cut across. The distal part is allowed to cover the cord and testicle. The opening in the peritoneum is closed. The reduplicated vas deferens is easily separated by gauze dissection from the peritoneum until the desired length is obtained. The external edge of the cut transversalis fascia is sharply retracted outward, exposing the spermatic vessels for some distance. The spermatic vessels are carefully sponged loose from the peritoneum, as a rubber band around an egg might slip from the middle toward the end. A bed is made for the testicle in the scrotum. A silk-worm gut suture is passed through the gubernaculum testis and both ends are passed through the most dependent part of the scrotum. The cut in the posterior wall of the inguinal canal is repaired, making the cord come through the lower angle of the incision The inguinal ring is closed. The conjoined

tendon is sutured to the under side of Poupart's ligament above the cord. The fascia of the external oblique muscle is sutured to the edge of Poupart's ligament above the cord. The skin wound is closed.

A strip of adhesive plaster is placed around the thigh just above the knee, with a flap on the inner side of the thigh. To this flap is fastened a thin rubber letter band. The suture through the bottom of the scrotum is tied to the rubber band with only sufficient tension to make the band taut. The usual aseptic dressings are applied. A light plaster of paris body cast or starch dressing is used to prevent flexion of the thigh and intermittent traction on the gubernaculum testis. This operation should be performed at puberty. Before puberty the parts are small and delicate and the operation is much more difficult. After puberty in the undescended testicle the conditions are reversed.

References—Bevan, Journal A. M. A., Sept. 19th, 1903; Bryant's Surgery, Davison; Surgery, Gynecology and Obstetrics, March, 1911; DaCosta's Surgery.

A CASE OF MUSCULO-SPIRAL PARALYSIS.

M. Mendeloff, M.D., Charleston, W. Va.

The musculo-spiral nerve is the continuation of the posterior cord and is the largest branch of the brachial plexus. It passes downward behind the axillary vessels and in front of the tendons of the latissimus dorsi and teres major muscles. Accompanied by the superior profunda artery, a branch of the brachial, it winds around the musculo-spiral groove to the outer side of the lower part of the arm, where it pierces the external intermuscular septum. It then passes downward between the brachialis anticus internally and supinator longus externally to the front of the outer condyle, where it divides into the radial and posterior interosseous nerves. Just above the point of division are given off muscular branches to the supinator longus, extensor carpi radialis longior, and usually to the outer part of the brachialis anticus.

The radial nerve is a purely sensory nerve; it passes over the humero-radial joint and then down along the radial side of the front of the forearm.

The posterior interosseous nerve or deep branch is the larger of the two divisions. It passes over the humero-radial joint obliquely outward and downward and just below the head of the radius it pierces the supinator brevis muscle. It passes between the two layers of this muscle, winds in a half spiral turn laterally around the upper part of the shaft of the radius, and emerges posteriorly below the external epicondyle, lying between the extensor communis and the extensors of the thumb. The nerve supplies the following muscles: Extensor carpi radialis brevior, supinator brevis, extensor communis digitorum, extensor minimi digiti and extensores pollices.

According to Gray the musculo-spiral nerve is probably more frequently injured than any other nerve in the upper extremity. In consequence of its close relationship to the humerus, as it lies in the musculo-spiral groove, it is frequently torn or injured in fractures of this bone, or subsequently involved in the callus that may be thrown out around a fracture and thus pressed upon and its functions interfered with.

It is injured by pressure upon operating table during operation. It is frequently injured when a person falls asleep with the arm over the back of a chair or by pressure of the body upon the arm when a person is sleeping on a bench or on the ground. This is sometimes called "Saturday night palsy."

It may also occur as a result of lead poisoning (Anders and Boston). Duchenne lays particular stress on cold as a causative agent in producing paralysis. In cases of dislocation of the head of the radius, complicated by fracture of the ulna, paralysis of the musculo-spiral nerve may set in. Dewitt Stetten has collected eight cases in literature to which he added one case of his own.

Symptoms.—The first symptom is inability to extend the hand and fingers, resulting in wrist drop (Bergman's System of Surgery). The hand is flexed at the wrist and lies flaccid; it falls back when released. The inability to extend the hand is due to the paralysis of the triceps muscle, while the inability to extend the wrist and first phalanges is due to the paralysis of the extensor group of muscles. The extension of the last two phalanges may be possible on account of them being supplied by the ulnar nerve Grip is considerably lessened.

Sensory Symptoms.—Loss of sensation

may be considerable or small. The paralysis of sensation will be most profound upon the outside of the arm, upon the dorsum of the thumb, index and middle fingers and upon the dorsum of the metacarpal region of the radial side (*American Practice of Surgery*).

According to Dieulafoy there is no anaesthesia of the posterior and external half of the forearm and of the hand. This is explained by the fact that the deficiency is supplied by other nerves. If divided above the point where the external cutaneous branch arises, Johnson thinks there will be a loss of sensibility upon the dorsum of the hand.

As for sensation, Scudder says there will be complete loss or impaired sensation in the lower half of outer and anterior aspect of the arm and in the middle of the back of the forearm as far as the wrist.

Some diagnostic points will help us to differentiate musculo-spiral paralysis from other affections.

1. It is unilateral; if bilateral it points to a neuritis.

2. Reaction of degeneration in the muscles is absent; if it is present it points to lead palsy.

3. Supinator longus and brevis are paralyzed, which is never the case in lead palsy.

Prognosis good.—Osler says the condition may clear up in a few days.

Treatment.—There is very little to be done. Rest, proper sling; strychnine is of some use. Electricity, galvanic or faradic current, massage.

G. D., a Russian, 37 years old, occupation coal digger, was admitted to the Charleston General Hospital on July 11, 1913, complaining of inability to use his right forearm and hand. Patient says that he was always well, never handled lead, denies syphilis, gonorrhea, uses beer and alcohol in moderation.

On Saturday, July 5th, after a drinking bout, patient fell asleep with his right forearm and hand under his chest. On awakening he noticed that he could not use his right hand and that in order to extend it he had to use his other hand. He attempted to work, but was unable to do it. He has no pain in his hand and feels good otherwise.

Examination showed the patient to be a healthy man. Chest and abdomen were negative; so were the blood and urine.

Inspection of the right forearm shows a marked prominence of the radial side of the cubital fossa. A marked wrist drop is present.

Motion *at the elbow* shows pronation and supination to be impaired.

At the *wrist* abduction is limited, while adduction is good.

At the fingers—Flexion is normal. The two distal phalanges of the four fingers can be extended. The proximal phalanges and the thumb cannot be extended. The grip is weak.

Sensation.—An area of partial anaesthesia over the dorsal surface of forearm and thumb. No test for electrical reaction was made.

Treatment.—Consisted in rest, strychnine sulphate gr. 1/40 every four hours and massage. The anesthetic area cleared up, while the wrist drop persisted.

The patient was sent home with the request to report to us at some future time. A recent letter from his physician, Dr. J. A. Davis, states that his paralysis has cleared up and that he has resumed his work in the mines.

In conclusion I wish to thank Dr. J. W. Moore for the privilege of reporting this case.

Dieulafoy's Text Book of Medicine, 1912.
Scudder's Treatment of Fractures, 1912.
DeWitt Stetten: Musculo-Spiral Paralysis due to dislocation of head of radius, Annals of Surgery, August, 1908.

ECTOPIA LENTIS.

John L. Dickey, A.M., M.D.,
Wheeling, W. Va.

I saw recently a rare and interesting case —*ectopia lentis*—congenital dislocation of the crystalline lens. The patient, a little girl, May Haught, age six, was brought to me from her home in Middlebourne, W. Va., for poor vision, though it was not very defective, as she could read twenty-two hundredths, and could make out ordinary type at twelve inches. The tremulous iris and the deep anterior chamber indicated either aphakia or ectopia. On dilating the pupils the dislocated lenses, though clear and transparent, could be readily seen in dark outline under oblique illumination. The right one was dislocated, downward and inward, the left one upward and inward, each one filling about three-fourths of the space of the dilated pupil, leaving one-fourth black and vacant.

No cause could be assigned. She was full term, weighed ten pounds at birth and had always been normal and healthy and seemed exceptionally bright and intelligent. No case of defective sight had occurred in either family line.

No treatment was suggested, no glasses were ordered, as nothing helped vision except a minus one and that very slightly.

The only other case of *ectopia lentis* I had seen was thirty years ago, in the first year of my practice. The patient was a girl of eleven. The lenses were dislocated upwards and their lower segments filled only about one-fourth of the dilated pupillary space. Both eyes were exactly the same. Under the full correction of R. and L. plus 13 with plus 3 cylinder, axis of 90 degrees, the patient has been an active useful school teacher for the past twenty years. She was a healthy, normal girl, had no other stigma and there was no other case of defective vision in the family. Her father I operated on some years later, at the age of forty-nine, for senile cataract so-called.

Selections.

HEART LESIONS IN RHEUMATISM

A. R. Gordon, M.D., Toronto.

In so short a paper as I purpose presenting to you tonight I wish only to call attention to the most important facts as they appeal to me in connection with rheumatic heart disease.

Rheumatism is a general systemic infection, and, remembering its affinity for the serous, fibro-serous and fibrous tissues, we may expect a heart lesion, just as we may expect a joint lesion, or a pleuritis, or a bursitis. The heart may be the first and only part affected; it may be affected when other evidences of the disease are insignificant, and it may escape when the arthritis may be widespread and of the severest type.

We must remember, too, that rarely does an *endocarditis*, and still more rarely a *pericarditis* occur without an accompanying *myocarditis* of greater or less degree. This is doubtless the case if the endo or pericarditis is of such degree as to produce physical signs and symptoms during the acute stage. When both an endo and a pericarditis are present the myocardium, sandwiched between them, will surely be seriously involved,—hence it will be much better to think of these rheumatic heart affections as cases of carditis and treat them as such.

Again we must keep distinct to our minds the two conditions—*unhealed* and *healed* lesions. The former, the *unhealed*, will include: (1) The primary acute infections; (2) the chronic progressive ones; and (3) secondary attacks upon already damaged hearts. In the first class the trouble is essentially a toxic one, microbic or chemical, or both, not as yet necessarily destroying tissue, but impairing or paralyzing its function—and from the effects of which recovery may be more or less complete.

In the second class, the progressive chronic cases, the toxic process and the destruction of tissue with the formation of new tissue go hand in hand, resulting in the unfortunate combination of functional paresis and mechanical embarrassment. In the third class, the old rheumatic heart with secondary attack, we have already the mechanical embarrassment to which is added the acute toxemia; and these are the cases that do particularly badly.

In the *healed lesions*—the *"old rheumatic hearts"*—the difficulty is purely a mechanical one in direct ration to the amount of fibrosis that has resulted. Certain of these cases go on perfectly well for many years; certain of them yield, for example, to degenerative nutritional changes from arteriosclerosis; certain of them continue to perform their function to the end. Of this I will speak later.

Again: The amount of fibrosis in any inflammatory process depends upon the *nature of the infection* and the *length of its duration*, and we know that the latter is, to a large extent, modified by the degree of functional rest which is secured. Therefore in *acute infections* we must have in mind not only present dangers from the acute toxemia, but also the future condition of the heart when it will be looked upon as a healed lesion—the old rheumatic heart, handicapped by a fibrosis.

What are the signs and symptoms of a heart affection in the course of a rheumatism? They often pass unnoticed. A rise in the temperature curve, otherwise unexplainable; an increase in the pulse rate, perhaps without corresponding rise in temperature; a change in the character of the pulse, a change in its rhythm, e.g., an extra systole, showing an increased irritability of the heart muscle, or a lengthening of the a v interval in the jugular tracing, showing some involvement of the bundle; a change in the expression of the patient from one, perhaps, of satisfactory convalescence to that of acute illness; some precordial dis-

tress and finally changes in the heart itself; changes in its size, changes in its shape, changes in its impulse, in its sounds, in its murmurs if there be any, or the presence of a murmur for the first time.

The presence of a murmur does not necessarily mean *endo*-cardial disease; it may as well mean *myocardial* disease, permitting of dilatation. An arhythmia of purely nervous origin usually disappears in the presence of fever, as pointed out by McKenzie, but an arhythmia occurring during a febrile attack points strongly to myocardial disease. On the other hand an arhythmia is sometimes the best evidence that the heart muscle with the bundle has escaped serious damage, showing that the sensitive nerve mechanism has not lost its sensitiveness and is still influenced physiologically by respiration. Hence the great importance of being wholly familiar with the individual heart from the first moment of observation.

When can we know that the lesion is a healed one? *We can't know*, but we can know when it is *not*. Any variation in the size or shape of the heart from day to day or from week to week, any change in the character of a murmur, whether for the better or for the worse, tells us, at least, that the lesion is a recent one, and that we are dealing with a heart that is *not healed;* but such changes may not occur, and the heart, day after day, remaining unchanged, would argue that the lesion is healed, when such is far from the truth. We must observe how the heart "responds to effort." For example, a young girl with aortic and mitral disease, apparently perfectly recovered, as far as could be determined while resting, after walking the length of the ward, had an increase in pulse rate of 30 beats per minute (not surprising after being in bed for some weeks), but the heart, instead of resuming its normal rate in fifteen minutes, or even half an hour, required four or five hours to rest from the tax put upon it. Her heart is *not healed*, and so is *unfit for exertion*. We must not forget that every inflammatory process has a period of advancement, a period of full development and a period, often long delayed, of gradual recession.

Of the endocardial rheumatic lesions, *mitral disease* is the predominant one, and its gravity depends upon the amount of *stenosis* resulting. A simple mitral insufficiency may exist for years without affecting the efficiency of the heart, and, to speak perhaps somewhat extravagantly, *never does*, unless complicated by stenosis, or fibrosis of the muscle, or by degenerative changes from arterial disease, or by a fresh infection, rheumatic or otherwise, as in those instances of "failing compensation," as it is called, in cases of *mitral insufficiency* in an old, *healed*, rheumatic heart.

The gravity of a pericarditis depends upon the virulence of the infection, the extent of it and the *location of it*. A pericarditis at the base of the heart is much more serious than one involving the ventricular portion. This would be explained by the position of the cardiac ganglia, and the subpericardial position of the auricular portion of "*the bundle*" and the "*sinus node*." When the inflammation is an extensive one, the embarrassment may be mechanical from constriction of the organ or from the tugging of adhesions in the chronic forms, or from effusion in the acute ones.

Treatment.—The general treatment of a patient suffering from an acute carditis is exactly the same as that of one suffering from an acute rheumatic arthritis. The source of the infection must be discovered and removed if possible, whether that be in the tonsil, or as a pyorrhea or a urethritis.

The patient must be kept absolutely at rest until the lesion is healed. The dietetic treatment and the hygienic are identical, except that in carditis *the necessity* is a *true necessity*. The utmost degree of mental composure and the full complement of sleep, however secured, are essential.

Pending a perfected serum-therapy, reliance has to be placed upon the salicylates, but they should be used in the way recommended by Lees.

The opinion that the salicylates must be used with extreme caution and for only short periods of time in rheumatic fever, has lived its day, and so it is true that for the treatment of rheumatic heart affections the salicylates are our surest and safest remedy.

Other specific treatment, as applied to the acute heart affection, consists in the use of heart sedatives; the cold heart pack, the ice bag, *morphia*, often better *chloral*, to *give it rest* and *venesection* to take off its load when the right chambers of the heart are overladen. But when the whole heart is

tiring and the right chambers are not overladen, no good, but harm, will result from venesection.

The quantity of blood should be drawn off hurriedly, perhaps from both arms simultaneously, as our purpose is *not to produce an anemia,* but to relieve *right heart pressure,* with the hope that, given a short respite, the heart muscle may regain sufficient tone and strength to carry its full load. The practice of cutting down upon and exposing the vein, to be followed by ligation, is unnecessary and objectionable.

The place for digitalis and the digitalis group is not here. They appear to have little or no effect upon the acute heart affections.

The heart is already under the "control of agents far more powerful than any therapeutic dose of digitalis or strophanthus." The reliance upon these remedies is often responsible for serious and permanent damage to a heart, in that it encourages the empirical and irrational to the neglect of the scientific and logical.

With the subsidence of the acute phase of the disease comes the time for general tonic treatment, and for the *rational use of digitalis.* This also marks the time when the closest study of the case is necessary to determine when the lesion may be considered a *healed one*—for I believe that the most serious damage is often done in the "recession period" from want of proper appreciation of the necessity *of time and rest* to effect a cure—and there results the "old healed lesion," but a badly damaged heart.

These are the hearts with "failing compensation" already referred to. They are healed as far as the rheumatic infection is concerned, but often hopelessly damaged They begin to fail during some period of ill-health or acute illness, or as the result of arterial degeneration, as already mentioned The treatment of these is rest and digitalis —combined or alone.

A word as to digitalis. Although many times the use of digitalis is fruitless, it must not be condemned; although often attended by wonderful success, it must not be considered a panacea for heart disease.

Its peculiar virtue is in the treatment of rapid hearts with irregular rhythm—auricular fibrillation; the old rheumatic heart with "failing compensation;" the failing heart accompanied by ascites and edema, especially with a rheumatic history. It has little or no effect in acute febrile conditions or in the acute infectious diseases, and in the failing heart from arterio-sclerosis it is often disappointing.

I wish to emphasize the importance of the following:

1. Rheumatism affecting a heart should be treated as a rheumatism affecting a knee joint.

2. Endo and pericarditis usually mean a myocarditis.

3. The importance of resting a heart till the lesion is a healed one.

4. The ultimate damage to a heart usually in proportion to the duration of the infection.

5. The importance of careful watch being kept for evidence of a heart infection in the course of a rheumatic fever.—*Canadian Journal of Medicine and Surgery.*

PROGRESS IN OBSTETRICS.

F. E. Wilhelm, Kansas City, Mo.

Since the days of Semmelweis and our own Dr. Oliver Wendell Holmes the science of obstetrics had been at a standstill except for the advance made in surgical cleanliness which accompanied the advance in general surgery. Obstetrics is, first of all, a branch of surgical science and whatever skill or technique may be required or used is surgical. No matter how many specialists in midwifery may develop in our profession, the great majority of women will always be confined by the general practitioner, and this is as it should be, so this paper is especially addressed to the family physician. The discussion will be under seven divisions:

1st—The Abderhalden serum test for pregnancy. (Omitted).

2nd—The use of pituitary extract.

3rd—The use of magnesium sulphate in puerperal bacteraemia.

4th—The care of the infant's mouth.

5th—The treatment of the puerperal breast.

6th—The delivery of the placenta.

7th—Congressional education of motherhood.

* * * * * * * * * *

II

After review of the literature of the last

two years it seems justifiable to draw the following conclusions regarding the action and administration of pituitary extract:

1st—The active portion is the posterior lobes of the pituitary gland. Its chef action is upon the involuntary muscle fibres including the intestines, the blood vessels and the uterus.

2nd—The ampules and vaporoles are the most satisfactory form. Both the extract and the bulk solution are uncertain.

3rd—The initial dose is 0.1 gram, while the full dose is 0.2 gram. Some patients require twice this amount. A second dose may be repeated in one hour. More than three doses rarely are given.

4th—The maximum effect is reached in about thirty minutes, though the first contraction usually appears in two to five minutes. The entire duration of activity is rarely more than one hour.

5th—It should be given intra-muscularly. When given intra-venously immediate and severe cardiac weakness has been noted.

6th—The uterine contractions generally are intermittent, regular and vigorous. The duration is one-half to three minutes; they may be continuous or tetanic, especially in the presence of obstruction. The first contraction is often prolonged.

7th—The extract is more active in the later months of pregnancy than in the earlier ones, and in the second stage of labor than in the first. The later in labor the initial dose is given the more active it is. It is more active after than before the membranes rupture.

8th—When used to induce or complete an abortion the results are disappointing. Alone it will not initiate labor but it will augment the pains after they have been started by other means.

9th—In the first stages of labor it should be given in reduced doses and only tentatively at that. In the presence of an obstruction it may be used only with the view of bringing the head within reach of the forceps.

10th—Uterine rupture has occurred under these circumstances. Predisposing causes are, of course, fibroids, uterine sacculation and scars from caesarean section and myomectomies.

11th—Cervical lacerations are frequent from the early administration of pituitary extract. An anaesthetic should always be in readiness as should forceps for immediate delivery should tetanic contractions occur.

12th—As one would suppose, the action is more satisfactory in a multipara than in a primipara.

13th—Pituitary extract does not predispose to post-partum hemorrhage. On the contrary it brings about a fair degree of uterine contraction. It is less satisfactory for this purpose than ergot. The contraction is more prompt, but less tonic.

14—Asphyxia neonatorum is frequent when the extract is used in the first stage, but is rare and slight when used in the perineal stage.

15—Pituitary extract has no effect as a galactagogue. Excess secretion is merely due to the associated muscular contraction.

16—It produces an immediate rise in blood pressure and is, therefore, indicated in shock, but, and for the same reason, is contra-indicated in eclampsia and nephritis.

17th—Certain unpleasant effects are reported, as tinnitus aurium, vertigo, tachycardia, dyspnoea, great fear and albuminuria. There is, however, no toxicology.

18th—The chief dangers are asphyxia neonatorum, hourglass contraction of the uterus, lacerations, abruptio placenta, and uterine rupture.

19th—The indications for its use in obstetrics are inertia uteri, post-partum hemorrhge from atony, in caesarean section, as a substitute for ergot, and in shock.

20th—The ideal indication for pituitary extract in obstetrics is found in a multipara, with complete cervical dilation, the membranes ruptured, the head well engaged and the pains weak. A spontaneous delivery, prompt and easy, occurs often as if by magic. Its use in these cases will render unnecessary many a forceps operation.

Unquestionably, therefore, pituitary extract has already won a permanent position as a therapeutic agent and its conservative use constitutes an advance in obstetric surgery.

III

Puerperal streptococcaemia, that horrible menace which has struck dread to obstetricians and general practicians from the

beginning of time, and which has claimed the lives of more lying-in women than all other obstetrical complications combined, still stands as a terror respected and dreaded by every accoucheur. Various therapeutic agents have been used and found wanting, for the combat of this terrible misfortune. As early as 1910 the use of magnesium sulphate intra-venously was suggested by Dr. Huggins in an address read before the American Association of Obstetrics and Gynecologists, and this therapy has been tested with more or less success by a number of the large hospitals of the country. The results from this treatment have been quite encouraging. No one attempts to prove what its action is, but apparently it has reduced the mortality in puerperal bacteraemia, especially in streptococcaemia, from 93% to 20%.

In 1903 J. Loeb and A. P. Matthews at Chicago University carried on a line of animal experimentation with sodium solutions intravenously on the theory of causing a cell-catharsis which would result in the elimination of toxins from the blood stream. The action of magnesium sulphate solution may be in accordance with this same principle. They found that 1000 c.c. of their solution introduced in two hours resulted in 1500 c.c. of urine excretion during the same period.

The New York Lying-in Hospital uses the folowing technic: C. P. Magnesium sulphate is dissolved in 2% solution with freshly distilled water, the solution is autoclaved and used freshly. 400 c.c. is injected intravenously at slightly above body temperature slowly. Injections are repeated if needed at two to four day intervals.

IV.

Dr. Whitridge Williams of Johns Hopkins, recommended as a prevention of breast complication in newly delivered women, that all medicinal agents which had been used as lotions for the breasts should be done away with; the use of the breast pump, as well as manual massage of the breasts should be abolished as well as the tight binders which we are taught to apply to compress the breasts to discourage lactation. He based his theory of the treatment of painful breasts on the principle that congestion of the breast was a venous congestion caused by the turning vessels being put at an acute angle as they passed from the breast tissue back into the trunk of the body, and that the milk was not the cause of the so-called caking of the breast nor of the pain. He used and recommended that large, firm rolls of cotton should be placed at the outside and lower angle of the breast with the body, that a loose binder should be placed around the bust which would make pressure directly on the cotton pads with indirect pressure on the pendulous breasts which would hold them forward, upward and inward, thereby smoothing out the sharp angles of the veins and allowing the breasts to be emptied of venous blood. This procedure has revolutionized the treatment of painful breasts in hospital practice and should be adopted in every case of midwifery where needed. In some cases a quarter grain of codeine, by mouth, may be required to control the pain. No restriction of diet or fluids and no catharsis is required or cared about in this treatment.

V

Another of the small things which I think has been generally overlooked and which, while not really as a matter of progress in the past bi-ennuim, I wish to bring to the attention of this section, is the care of the mouth of the new-born babe which is based on this principle—the toothless mouth of the infant needs no special care. Some years ago the accusation was made that the lesions and infections of the mucous membranes of the mouth were mostly the results of the manipulations used for the cleansing of the mouth. For that reason the washing and wiping of the mouth must be classed as an unnecessary and harmful procedure. The practical appliance for this rule has everywhere been followed by most excellent results and cannot be emphasized too much. The cases of mouth disease and infections are very much reduced in number when the mucous membrane of the mouth is left alone. It is one of the hardest things known to me in obstetrics, to persuade the mother or nurse to keep away from the mouth with boric acid soaked sponges or pledgets of cotton and this has become so regularly a part of the baby's

morning toilet that it is next to impossible to get a baby through without this well-meant but harmful attention.

IV.

During 1913 I saw, in consultation, two deaths from puerperal sepsis, both of which were cases in which so-called adherent placenta was delivered by the introduction of a gloved hand into the uterine cavity and by grasping the placenta and detaching it from its uterine attachment. Text-books have encouraged this method, after a reasonable time has elapsed (an hour or two) after the birth of the baby. The passing of the hand into the uterine cavity while the membranes are inflated and serve as a lining to the uterine cavity as is done in a version, is a comparatively safe procedure, but to introduce the hand, no matter how carefully sterilized, into a uterine cavity after the collapse of the membranes as always follows the delivery of the child, for any purpose except as a final resort in a post-partum hemorrhage is unscientific and unpardonable to my mind and I note with pleasure the advance ground which Dr. Joseph DeLee of Chicago has taken in his new book on this matter, from which I quote:

"The invasion of the uterine cavity after parturition is a serious procedure, and done, as it usually is, is more dangerous than most laparotomies done as they usually are. A hand may be introduced into the uterus only under the strictest indications. This is one of the most dangerous operations in obstetric practice because of the likelihood of infection of the naked placenta site. Its mortality is placed by Bumm at 10%. It is, therefore, best to make another attempt to remove the placenta by Crede expression after the woman is deeply narcotized."

In my opinion there is only one condition which permits invasion of the uterus to remove the placenta, and that condition is an uncontrollable hemorrhage. Several hours sometimes elapse before the placenta comes away, but if there be no bleeding, or only slight, no harm can come from waiting, with an occasional attempted Crede.

VII

The final subject to which I wish to call your attention in the progress of obstetrics is the fact that at last the United States government has seen fit to recognize the necessity that some step should be made to prevent the deaths of about 300,000 infants under one year of age each year in this country. The latest reports of the Census Bureau show that about 42% of the infants dying under one year of age did not live to complete the first month of life and that of this number almost seven-tenths died as a result of conditions existing before they were born, or of injury and accident at birth. Of those babies that died under one week, 84% died of such causes, and of babies that lived less than one day 94% died from these causes. Investigation of these conditions led Congress to establish a Children's Bureau as a part of the Department of Commerce and Labor. This became effective in 1912 and provided for the establishment of said bureau under the direction of a Chief appointed by the President, whose duties were to investigate and report on all matters pertaining to the welfare of children and child life and especially to investigate the question of infant mortality, etc.

In 1913 the Children's Bureau was transferred from the Department of Commerce and Labor to the Department of Labor upon the creation of that department. This bureau is under the direction of Miss Julia C. Lathrop, one of the great women of this country, and I have no doubt that much good will result from this bureau, and to my mind this is perhaps the greatest step in the progress of obstetrics for this year. Already the bureau has issued two papers or booklets, the first entitled "Baby Saving Campaigns," which gives a report upon what American cities are doing to prevent infant mortality, and a second book entitled "Prenatal Care." These pamphlets are remarkably well and plainly written and are for distribution to the laity and are being eagerly sought for reading, and much good must result from the information gained thereby. One of the best paragraphs in this book is a plainly written discussion of that bugbear to expectant mothers from the earliest time regarding

maternal impressions upon the child. I quote briefly:

"Doctors and other scientists are now practically agreed that, most happily for all concerned, these opinions have no basis in fact. The underlying anatomical facts are so technical that a simple brief explanation is somewhat difficult, but since the belief in the 'marking' of babies is so widespread and productive of so much anxiety, it will be comforting to many women to learn on what slight foundation the belief rests. So far as is known there is no connection between the mother and the child in the uterus by which nervous impressions can be conveyed. The only communication between the two lies in the interchange of the materials of nutrition and excretion through the placenta. The mother's blood never enters the child so that even if the blood were able to convey the nervous impressions, the fact that the two circulations are separate and distinct makes the direct injury of the child in this way an impossibility. Indeed, it appears that nature in thus erecting a barrier between the mother and child has specifically provided for the protection of the fetus from such injuries."

To my mind, this one paragraph in this little book is one of the most important refutations of a superstition which rightly should have passed away with witchcraft but which has lived and lives today to hold terror over a large portion of our expectant mothers and I am led to believe that fully 50% of the profession, while not actually believing this myth, refuse to deny the effect upon the child of maternal impressions.

In conclusion, following the custom of the great Cato, who ended every address before the Roman Senate with the admonition, "Carthage must be taken," it is the desire of your committee to bring this discussion to a conclusion with the admonition, "be clean—be surgically clean." The obstetrician, whether the specialist, the family physician or the midwife will have more deaths in his practice from sepsis than from a combination of all other accidents of labor.—*Bulletin Jackson Co. Med. Soc.*

THE MODERN TREATMENT OF TABES.

Although it cannot be said which is really the more valuable in the treatment of tabes, yet Collins (*Medical Record*) notes that the present day treatment of tabes is much more satisfactory than before the introduction of salvarsan.

Salvarsan, that it shall be of real, lasting service in the treatment of tabes, must be given repeatedly. This is one of the most important lessons that we have so far learned concerning it. The interval between the first dose and the repetition of it should not be longer than from ten days to a fortnight. The third dose should be administered within the month and the fourth within a month after the third.

If neosalvarsan is used instead of salvarsan the interval between the administrations should be less. Neosalvarsan is given one dose (0.9 gm. for men, and 0.45 gm. for women) every third day for four doses, and then an interval of from six to eight weeks is allowed to transpire before the medication is resumed. During this time, in many instances, it is advisable to give mercury, possibly in large doses, or cacodylate of soda. We are assisted in determining whether we shall or shall not give mercury after salvarsan administration by the chemical and microscopical findings in the cerebrospinal fluid. For instance, if a patient who had the symptoms and signs of tabes and the characteristic blood and cerebrospinal findings of the disease should have, after the administration of one or more doses of salvarsan, what is called a negative condition in these fluids, then we would not be justified in giving further antisyphilitic medications. Indeed, before returning to it we should await what are called positive signs in the blood or in the fluid.

The administration of salvarsan in no way tends to dislodge mercury as an adequate agency to combat syphilitic nervous disease.

Mercury should be given as an adjuvant to salvarsan. Not that it is not an adequate spirillocide—indeed it may be quite as potent in this direction as salvarsan—but when administered in sufficient doses to act efficiently as such, is a powerful depressant, and often causes serious disorder of nutrition (ptyalism, gingivitis, loss of teeth, di-

gestive disturbance, emaciation). The most competent ways of administering it are by inunction and intramuscularly. The writer's preference is for the latter method, and in the shape of the salicylate of mercury suspended in liquid albolene.

What has been said regarding the amelioration of pain applies equally to the paresthesias of tabes, one of the distressing symptoms in some cases. Of all the agencies for the relief of this symptom none is more potent than light cauterization of the spine frequently repeated, a measure which is often neglected for an inferior but more easily applied substitute, viz., sedative drugs.

For the relief of vesical incompetency there is a drug of some real value, belladonna. It must be given in doses that cause so-called physiological effect. To counteract the pernicious results arising from decomposition of urine within the bladder urotropin is of undoubted value. But nothing succeeds so well in cases in which vesical incompetency is a symptom, that is practically in all cases of tabes, as putting the patient upon a time table for urinating. He should be advised to make a voluntary effort to void urine every four hours during the day, and to facilitate conformation to the order he should keep a "time sheet." Soon it becomes a habit and thus saves many a patient hours and days of misery. When the physician suspects that a tabetic patient retains a considerable amount of urine in the bladder after voluntary urination he should pass a catheter to determine how derelict the bladder really is, so that he may be better able to determine just what tonic measures, such as strychnine and static electricity, to use, and whether or not to administer urotropin.

The crises of tabes, gastric laryngeal and vesical, are so unbearable that they demand relief, and in many instances morphine alone administered in large doses will relieve them. Fortunately the danger of forming the habit is not so great as it is when administered for the relief of tabetic pain. In the first place crises are comparatively rare symptoms of tabes, and in the second place much can be accomplished in preventing their occurrence by constitutional and local treatment. Patients who have gastric crises should have their gastric juice investigated and abnormalities of it corrected by suitable chemical additions. As a rule an attack is best combated by administering a cathartic if it can be retained, or if not as copious an action of the bowels as is possible should be secured by enemata; by absolute cessation of attempt to feed the patient by the mouth, at least in the beginning of the attack; by stimulation of skin activity with hot packs, also a counterirritant attack; by the hypodermatic administration of pantopone (ampoules 1/6 to 1/3 gr.), and if this does not succeed, then the administration of morphine (1/3 to ½ gr.). If the attack is protracted, resort must be had to nutrient enemata. It is the treatment during the interval between attacks that is most important, and such treatment is the general treatment of the disease.—*Urologic and Cutaneous Review.*

RADIUM AND CANCER.

Professor Gary N. Calkins,
President American Association for Cancer Research.

The term cancer covers so large a field of maladies that every so-called cure must be analyzed first, as to the nature of the disease said to be cured, and second as to the nature of the cure. There seems to be a general agreement that small superficial cancers can be cured by radium, but there is little evidence that malignant internal cancers are permanently benefited. In many cases, however, there is an actual decrease in tumor mass after radiation and the psychological conditions are much improved; appetite and color return; the patient gains in weight, and new courage and strength undoubtedly help in fighting the disease. The cancer cells, however, are not killed and the tumor mass slowly or rapidly returns to the previous state and the process must be repeated.

The malignant internal tumor often consists of necrotic central cells and peripheral, well-nourished living cancer cells. The necrotic material is constantly undergoing autolysis or chemical disintegration resulting in the formation of poisonous substances which are absorbed in the blood. These poisons may affect all of the organs and functions of the body.

According to one widely-accepted view

the effect of radium rays is to open up paths of ionization throughout the tumor mass; the molecules in these paths are made ready for chemical interaction so that, under the influence of enzymes already present, such chemical actions are hastened and accentuated. In the necrotic tissues autolyzing enzymes (hydrolytic and oxidative) are present in abundance and are already at work, but their activities are greatly increased by radiation. The products of their action pass rapidly from one stage to another until complete autolysis or dissolution of the necrotic mass results, and the bulk of the tumor is reduced, slow poisoning is minimized, and metabolic improvements follow. The living virile cancer cells are not killed. If radiation is sufficiently powerful to kill them, the normal functioning vital cells of the body in the vicinity would likewise be killed for there is no evidence that radium emanations distinguish between living protoplasm in normal and in abnormal cells. In small superficial and localized cancers the treatment can be limited to the diseased area and both necrotic and living cancer cells can be treated directly and with a minimum destruction of normal cells. Such cancers may be cured by radium.

Apart from the destruction of normal cells there is another and a more pernicious effect of radium treatment which may become a source of danger in the hands of careless, ignorant, or unscrupulous practitioners. It has to do with the kinds of rays used. Of the three kinds of radium emanations, the alpha rays are wholly confined by the glass or mica screens usually arranged for protection of the salt; the beta rays and the gamma rays, however, penetrate thin glass although their activity is greatly reduced by the transit. Of these, the beta rays are injurious, when of proper strength, to vital activities of protoplasm, while the gamma rays according to numerous investigations have a directly opposite effect, viz., to stimulate and increase such activities. Hence weak beta rays or gamma rays, instead of reducing the tumor, actually increase it by causing an acceleration of the chemical protoplasmic activities, thus leading to an increase instead of a decrease in the rate of cell division. The effect is the same as a forced draught on a slow fire—the normal destructive (katabolic) processes are increased; nucleo-proteids are reduced to nucleinic acid or even to purin bases, while the reverse action of the enzymes is likewise increased and complex nucleo-proteids are more rapidly built up from simpler compounds. Thus stimulation of some links in the chain of vital processes results in stimulation of the entire series, and more rapid local life with more rapid abnormal cell division results, and the tumor grows more rapidly than before treatment.

The use of radium in cancer thus is a delicate matter, and with our present knowledge may be beneficial or pernicious in results according to the experience, wisdom, and honesty of the practitioner.

(The above from the Monthly Bulletin of the New York State Department of Health was received after our editorial on radium was written. We are glad to find space for it.—Editor.)

VACCINE IN WHOOPING COUGH.

Sill, in the *American Journal of Diseases of Children*, reports thirty-three cases of whooping cough treated with the pertussis vaccine, and in all the effect of the vaccine was to diminish markedly the number and severity of the paroxysms and the amount of vomiting.

Absolutely no untoward effects from the use of the vaccine were noted. There were no complications in the cases in which the vaccine was used; no abscess formation, or even slight temporary inflammation or swelling at the site of the injection, and no general constitutional symptoms occurred. The longest time any of the children coughed was twelve weeks and four days. The longest time any child coughed after it was put under vaccine treatment was nine weeks and one day, the average length of time being four and one-half weeks. The injections were given every two or three days in most of the severe cases, and in the very severe cases every day for a few days, until the symptoms were relieved; the milder cases did not receive the vaccine so often nor so much at a time.

In giving the vaccine Sill was guided more by the severity of the disease than by the age of the child. The youngest child

treated was one month old and the oldest was six years. Most of the children were from six months to three years of age. The dose of the vaccine varied according to the number and severity of the paroxysms, from twenty million bacteria in the mild cases to sixty million in the severe cases.

The cases that were seen early in the attack, before the paroxysms had attained their height, seemed to respond more quickly to treatment and their course was shorter. In all cases, however, after one to three injections, the number and severity of the paroxysms were markedly lessened.

Some children seemed to respond better to treatment than others, and Sill attributes this to the fact that the dosage was given irrespective of the age; therefore, the younger children got a larger dose proportionately, and as a rule these latter were the ones that responded most quickly to the vaccine and had the shortest attacks after treatment was begun. This fact is important, since (heretofore) these young babies are so apt to have pneumonia complicating or accompanying pertussis, with fatal results.

It was found that the children did better when the vaccine was given in moderately large doses at frequent intervals of one or two days. A good example of this was in the case of a child fourteen months of age, which received 220,000,000 bacteria, or about 40,000,000 at a dose, about every two days for two weeks. This child had been coughing and vomiting for two weeks and was cured in two weeks, the vomiting having stopped on the ninth day after treatment was begun. Another very severe case was in a child a year old that had from twenty to twenty-four paroxysms during the day and as many or more at night, with a great deal of vomiting. This child had been coughing for six weeks when it came for treatment. Forty million bacteria were given about every three days, 320,000,000 in all, in four weeks, the time it took to effect a cure. There was a somewhat similar case in an older child with paroxysms not so frequent; it got the vaccine every two days for three doses and then every three days.

Creeping infants may gather wood splinters or needles in their hands or knees, and abscesses in those localities should suggest such an etiology.—American Journal of Surgery.

RUPTURE OF THE UTERUS AFTER PITUITRIN.

Herz reports a case in which a primipara of 20, delicate and anemic, had had weak ineffectual labor for two days when Herz injected 1 c.c. of pituitrin at 4:15 p. m. The labor pains increased at once in intensity and duration and after twenty minutes assumed a tetanic character, each lasting from five to seven minutes, and extremely severe. At 5:15 there was a tempestuous uterus contraction with evident rupture of the uterus, and at 7:15 p. m. the child was born with deep asphyxia but was revived after an hour's work. The cervix was found entirely torn off from the front wall of the uterus; the child and patient had been expelled through the ragged gap. No attempt was made to suture the rupture, and sedatives were required to quiet the after-contraction, but the patient recovered. In the forty-seven cases in which he has used pituitrin his experience was always least favorable with frail, anemic woman, some of them having vertigo and syncope, vertigo and vomiting or tinnitus persisting several days of tenesmus with much diuresis. The os at the time the pituitrin had been injected in the case of rupture, was permeable for only two fingers, and the lower segment of the uterus bulged outward; this may have afforded a predisposition to rupture. The disproportion between the size of the head and the flat rachitic pelvis was not sufficient to explain the rupture. The pituitrin had also evidently injured the fetus by the furious contraction induced, as the heart sounds were very faint. He adds that others have reported unfavorable action from hypophysis extract in various cases; post-mortem atony of the uterus has been reported by Stern, Bagger and Jorgensen, and Spaeth has had two cases, while the latter, Malinowsky, Lieven and Nagy have reported weakening of the heart sounds and asphyxia of the child; Schneider-Sievers, Calman and Voigt have reported cases of collapse, tinitus and dizziness; Nagy, Schneider-Sievers and Toepfer of eclampasia; contraction of the previously dilated os has been mentioned by Mackenrodt, Patek, Rieck, Hamm and Heil; Hamm, Voigts and Mackenrodt have reported tetanus of the uterus, and Voigts, premature separation of the placenta.—*J. A. M. A.*

In post-operative or other simple retention of urine, even if such devices as enemata, hot water bag over the bladder, the administration of spiritus etheris nitrosi, dipping the hands in hot water, and producing the sound of running water, fail to provoke micturition, catheterization may often be obviated in the female by the simple trick of placing the patient on a well warmed bed-pan in which has been poured a little spirits of turpentine.

The West Virginia Medical Journal

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Wheeling, W. Va., April, 1914.

THE JOURNAL issued on the first of each month..

Subscription, - - - - -	$1.00 per year
Single Copies, - - - - - -	15 cents

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Editorial

RADIUM RESULTS.

The furor of excitement over the alleged wonderful curative properties of radium in cancer cases which was experienced in Europe some time ago, has invaded our shores, and the monthly journals and the daily newspapers are "enlightening" their readers very much in the same manner and with not much greater reason than they did the same readers not long ago on the subject of tuberculosis, which they claimed had at last found a conqueror in the Friedmann serum. How many poor victims of this disease were deluded by the rosy hues of the pictures painted by these newspaper artists, until they parted with their much needed money in travel to New York and home again, only to part with hope and sink into despair as to any cure for their disease. It is ever thus when any promising new remedy is prematurely set before the public by sensational newspaper writers. Not content to wait for a sufficient professional experience that may permanently fix the value of a remedy, success, apparent or real, in a limited number of cases is sufficient to start the sensation, and the laity must be grossly misled by the extravagant statements of the daily press, so seldom reliable when dealing with topics bearing on the treatment of disease, especially with those diseases generally looked on as incurable.

How long has it been since salvarsan was heralded to the world as a complete cure, even in a single dose, of that dread scourge of humanity, syphilis? Instead of this, the profession already knows, from an abundant experience of the most able clinicians, that this remedy has taken a secondary place in treatment, that it must be administered not in a single but in repeated doses to secure the best results, and that it must be used in connection with or be followed by the old reliable remedies, mercury and iodin. We also know that hundreds of deaths have been directly caused by this much-vaunted remedy. Of these deaths Wechselmann, the German clinician through whose experiments we were first made acquainted with the remedy, says: "There can not be the least doubt that these cases are pure salvarsan fatalities, that is, the concerned patients would not have died at the time had it not been for the introduction of salvarsan into their veins." How many syphilitic deaths do any of our readers know of? We know of none except from the later results of the disease on the nervous system.

The Friedmann cure deluded but for a very limited time, although it seemed to give promise of benefit especially in bone and joint tuberculosis. Now none so poor as to do it reverence. It would be interesting to know how much money this recent fraud has cost the American people, largely by reason of newspaper exploiting.

The X-ray for a time gave such promise of excellent therapeutic results in cancer and many skin diseases, that the younger physicians expended small fortunes in equipping their offices with X-ray machines. We already miss these machines from the rooms of some of our medical friends, but it is doubtful if their owners

ever realized cost from their use. With the machines have also vanished our hopes that they would even bring about the wonderful cures we once fondly expected from them. But the true limitations of the X-ray's usefulness are being gradually reached, and within these limits it is recognized as a most valuable remedy. No doubt, however, its greatest value consists in its use for diagnostic rather than therapeutic purposes, although it has shown good results in a somewhat limited way in the treatment of superficial cancer and some forms of skin disease.

Just now radium has the call. Fortunately its scarcity and consequently its very high cost will necessarily keep it out of the hands of the poorly qualified practitioners, so that its ultimate value will probably be determined by a limited number of experimenters possessed of a sufficient amount of scientific knowledge to render their conclusions, based upon a large experience, worthy of careful consideration by the profession and the world. Already Bumm, Kroenig, Voights and others in Europe, and Robert Abbe and Howard Kelly in this country have reported some good results of radium in the treatment of cancer. But the best of these or the total of them is scarcely sufficient to justify the extravagant encomiums passed on this remedy by one or two medical editors, who should be wise teachers of advances in affairs medical, to say nothing of the more extravagant claims of the lay journals. Until a much greater experience with this new remedy has been accumulated, its methods of application have been well defined, its curative properties somewhat definitely determined and its dangers and limitations have been fixed with some certainty, and have become matters of common knowledge, we advise the teaching to the laity as well as to the profession the transcendent importance of the earliest possible diagnosis of all forms of cancer and the early application of surgical means for its removal.

Radium does, however, possess wonderful properties, and we shall not be surpised if it should in time become a very valuable therapeutic resource. As a recent medical journal remarks, it is photographic, luminous, electrical and chemical, and "its physiological action of destroying cell life is the action which has imbued physicians with the hope that it will act detrimentally on cancer cells." The results thus far reached are encouraging, and with high hopes for the future usefulness of the remedy, we may yet wait for further results, and heed the timely warning put forth by the New York City Board of health, which we here present:

"In view of the popular furore which the radium treatment of cancer has excited in this country, it seems advisable to sound a note of warning. According to the best authorities, the radium treatment of cancer is as yet a matter of experiment, and what successful results have been obtained concern chiefly the treatment of external cancers, particularly those of the skin. Even though radium may eventually prove of greater value than has been the case in the past, it must not be overlooked that the first principle in cancer treatment is still early recognition and early, thorough removal.

"Thus far, there is practically no proof that radium has finally disseminated cancer. There is every reason to believe that the popular interest aroused in the radium treatment of cancer will be utilized by a large number of dishonest and fake money-getting establishments conducted by individuals with little or no radium and who have no knowledge of its use. This has been the experience in Europe, where the popular enthusiasm about radium appeared earlier than it did here. The great danger, of course, in all those 'cures' is the valuable time which may be wasted, thus frequently dissipating all chances of cure by surgical means."—S. L. J.

DAVIS, W. Va., March

Davis, W. Va., March 6, 1914.

Dr. S. L. Jepson,
Wheeling, W. Va.

Dear Doctor Jepson:

I wish you would insert a note to the effect that I intend to have a place on the program for discussion, perhaps a paper on the "Workmen's Compensation Act," as it applies to our profession.

Any one desiring it may secure some literature on this subject from me.

A. P. BUTT, Secretary.

A CARD OF THANKS.

Elkins, W. Va., March 26, 1914.

To the Editor of The Journal:

I wish to thank you for your words of kindness in The Journal of last December concerning the recent suit against me for alleged malpractice. While the suit practically ended with the judgment rendered in my favor last November, by virtue of certain legal technicalities the final ending of the case took place only a few days ago. And since you saw fit to touch upon this matter in The Journal, will you please allow me a little space in which to express my thanks to a number of my colleagues who rendered me much valuable aid, making great sacrifices to do so? The following promptly and cheerfully responded to my request and came and stayed with me throughout the duration of the trial which necessitated absence from their busy practice for nearly a whole week without any compensation whatever: Dr. Albertus Cotton of the College of Physicians and Surgeons, Baltimore, Md.; Drs. J. E. Burns and W. A. Quimby, Wheeling; Dr. R. H. Pepper, Huntington; Drs. J. E. Cannaday and W. R. Hughey, Charleston; Dr. S. M. Mason, Clarksburg; Dr. R. H. Powell, Grafton; Drs. C. B. Williams and F. B. Murphy, Philippi; Dr. O. S. Gribble, Mill Creek; Dr. H. Yokum, Beverly.

In the preparation of the case in connection with the taking of depositions in Pittsburg, I was the recipient of much courtesy and kindness from several worthy colleagues in that city and wish to express my warm thanks particularly to Drs Otto C. Gaub, Theodore Diller and John D. Milligan.

I am also indebted to many for good advice and words of encouragement. Among them are Dr. F. L. Hupp, Wheeling; Drs. J. W. McDonald, H. R. Johnson and E. W. Strickler, Fairmont; Drs. Geo. C. Schoolfield, W. W. Tompkins, W. A. McMillan, L. C. Covington, James Putney, A. M. Reid, O. L. Aultz, Ira Champe, B. S. Preston, Mendeloff and others, Charleston; and Dr. J. A. Nydegger, U. S. P. H. S., Baltimore, Md.

With the exception of two of the local physicians, who testified for the plaintiff, I am glad to say that I had the sympathy of all the physicians in this territory. Some did render me substantial aid and all stood ready to do so. It is particularly gratifying to me to know that this sympathy was based upon their knowledge of the facts in the case which convinced them that I was right and that the instituting of the suit against me had its inception in an unworthy motive.

How glad I shall be if I can ever be of some service to all these old and new friends. May they long live and prosper.

Yours very truly,

WM. W. GOLDEN.

The Chicago Medical Society will hold its third annual meeting of alienists and neurologists of the United States for the discussion of mental diseases in their various phases, July 14 to 18, 1914.

It is the object of the society:

First—To have a scientific program. The titles of papers already received for this meeting, indicate such a program, including research work, that will be beneficial to every physician, whether connected with an asylum, sanitarium or in general practice.

Second—One that will be educational to the public as well, therefore one day is to be devoted to the discussion of the prevention of insanity and the conditions causing mental defectives, to which the public will be invited.

Third—A committee will report on what constitutes a modern hospital or asylum, and what the duties of the state to the physician who makes the care of the insane and mental defectives a specialty.

Arrangements have been made with the Post Graduate schools of Chicago to give a complimentary course in all lines of work for the remaining days of July. This course will embrace Internal Medicine, Surgery, and special Regional Surgery, Cystocopy, X-ray, Brain Pathology, Vaccine making and Wassermann reaction, etc. The superintendents and attending physicians are invited to avail themselves of this opportunity for the complimentary course. Tickets for admission to this course can be obtained from the secretary during the meeting. All communications should be addressed to Dr. W. T. Mefford, 2159 West Madison street.

THE PREVENTION OF SUITS FOR MALPRACTICE.

"It is almost impossible to get one lawyer to testify against another, while it is always easy to get one doctor to testify against another, and, furthermore, in nearly every malpractice case, the suggestion of a suit comes from one of your own profession."

This quotation taken from Mr. Barbour's article, appearing elsewhere in this issue, is a true and almost irrefutable indictment of the profession. We plead guilty to the charge. We admit the profession's culpability. What are we —you—going to do about it?

There is but one and only one remedy—keep quiet; refuse to express an opinion when asked to pass judgment on the work, skill or acts of another member of the profession; refuse to be inveigled by an attorney to appear as a witness against another physician; and finally, utilize every opportunity that presents to discourage the bringing of a suit.

One of the essential objects of the plan of legal defense by the state society was to unite into closer relationship the profession of the state and thereby cement the membership into one united organization. By so doing it is hoped that any one member will not instigate, inspire or cause, by any word or act on his part, the commencement of a suit for malpractice against a fellow member, unless possibly it might be in an exceptional and extreme case. This object

may be attained if the members will but adhere to the remedy suggested in the preceding paragraph, and in addition to this, suits for malpractice will be without convicting evidence if we observe the other precautions recommended by Mr. Barbour.

If the majority of malpractice suits are in most instances blackmail; if the majority of suits will never go beyond the "threat stage' when the plaintiff's attorney finds that it will be difficult to secure expert testimony, and on the other hand finds that the defendant is supported by an impeachable array of expert witnesses; if all this may be accomplished by simple refusal on our part to pass judgment on any case or act of another physician, it then behooves us to so conduct ourselves in the future that these ends may be attainable and the profession thus be relieved from the attacks of shyster lawyers and malingering patients.—Editorial, Journal Michigan State Medical Society.

A MEDICO-LEGAL BUREAU.

The council on health and public instruction of the American Medical association has established a medico-legal bureau for the purpose of collecting, arranging and studying all of the available material bearing on medico-legal questions of interest to physicians, or relating to public health matters. This bureau is in charge of a graduate of the Northwestern University of Law. We desire to secure all available material, bearing on medico-legal subjects, especially all pamphlets, bulletins, monographs, circulars, legislative bills, laws, reports, or special articles on any medico-legal or public health topics. As rapidly as material can be secured and studied we hope to furnish information to all those interested on any topic coming within the range of the bureau. We shall greatly appreciate it, if you will kindly send us at any time any such material that may come into your hands.

The above comes from the office of the American Medical Association, Chicago. Let our readers aid in this good cause.—Editor.

THE AMERICAN COLLEGE OF SURGERY.

It has been interesting to read the various editorial comments and "Letters to the Editor" and other writings anent the recently organized American College of Surgeons. Much that has been written on the subject has seemed to be prompted by bitterness and disappointment on the part of some who had not been chosen among the founders or been elected to fellowship at the first convocation of the college. One cannot help feeling that had the writers of these denunciatory screeds been elected to fellowship in the American College of Surgeons they would have thought more highly of it and approved of its objects and the principles for which it stands. Our own views are well known to those who have followed our editorials for the last few years, for we have frequently insisted that if American surgery is to stand where it should, in the front rank of the world's surgery, it could only be as the result of just such an organization. In our issue for September, 1910, at the conclusion of an editorial on this subject, we wrote as follows:

"We should like to see some method devised in this country for separating, in some distinctive manner, the surgeon and the physician and we believe that a special surgical degree conferred by some authoritative body will in the future be demanded of every man who would become a surgeon. The evolution will of course be gradual, but the time is quite sure to come when the people will demand of our medical educational institutions that they provide some method of distinguishing between the real surgeon and the pseudo-surgeon. The distinction may not be one that will prevent the pseudo-surgeon from doing surgery if he can find people willing to trust their lives to him, but it will be sufficiently distinctive to enable those who need a surgeon to assure themselves, if they take the pains to do so, that the man they select is a safe man to trust."

In previous editorials we had said substantially the same thing.

While the foundation of such an institution as the American College of Surgeons could not have been accomplished without leaving out many whose surgical attainments and experience should have entitled them to place among the founders, no one can deny that with very few exceptions the original list was wisely and fairly chosen and that the officers, regents and fellows thus far selected and elected consist of the surgical leaders of this country and that many of them are among the leading surgeons of the world. Of course the personal equation could not have been avoided and there are many better surgeons in the country than some of those originally selected, but the future selections of Fellows is to be upon a basis which seems as fair as could have been devised and every surgeon in the country will have the opportunity to show his fitness and to become a Fellow of the College if he can demonstrate his eligibility. It will of course take a long time, probably a full generation, before the influence of the College will be felt to its full extent, but we predict that the time will surely come when every thoroughly equipped surgeon will seek fellowship in the College and when no important surgical work will be done by those who have not obtained it. There is one point which we wish to emphasize in this connection: A man who has been granted fellowship in the American College of Surgeons announces himself as a specialist in surgery and it seems to us that he should confine his work entirely to surgery. We do not think it either fair or right that a Fellow of the College should compete with the rest of the profession for general practice. Indeed the internist has as much right to say that the surgeon should not dabble in internal medicine as the surgeon has to say that the internist or the general practitioner should not do surgery. At the present time, we believe that only a very small majority of those

who have been elected to fellowship in the College from Minnesota, confine their work to surgery. Most of them take all they can get of general practice and while without exception the men to whom we allude are able surgeons and worthy to wear the toga of the College of Surgeons, and while they may be fully as competent in general medicine as the average of the profession, we cannot help feeling that they would not only be better surgeons, but would also inculcate a much more friendly feeling towards the College of Surgeons if they should announce that hereafter they would not engage in general practice, and stick to it. Furthermore we feel quite sure that such an announcement would be advantageous to them, as the rest of the profession would be much more likely to turn over their surgical cases to these men, if they could be quite sure that their patients would be sent back to them when the surgical emergency was over. This of course, is a very humane way of looking at it, but we are all human and we all like fair play.—Editorial in St. Paul Medical Journal.

THE FUTURE OF PSYCHANALYSIS.

Upon the subject of psychanalysis within recent years, much has been written. Much written and little said. There are few men in the world today competent to pass upon the intricacies of this subject. But not many have hesitated to try their hand .

Two sets of remarks, both somewhat comprehensively stated, both from sound and authoritative sources dealing with psychoanalytic methods will be found in the "Journal American Medical Association" for March 7 and the "American Journal of the Medical Sciences" for March, 1914.

They come from opposite types of mind. One from Dr. F. X. Dercum, sane and sure, a little dogmatic, firmly rooted in clinical psychiatry he stands solidly on the earth and utterly rejects these delicate methods which claim to see into the hidden depths of the subconscious mind and like strange fish in the half light of an aquarium. The other from Dr. J. J. Putnam, more spirituelle, perhaps, strung to a little higher pitch, rather more interested, a bit closer to neurasthenic states, "there but for the grace of God goes J. J. Putnam," he hopes on, is not yet ready to cast it all aside.

But both are agreed on one thing. The excesses of the Freudian school are acknowledged and the sweeping statements have passed. We have never been told many things for which no proof was offered. Never, before, perhaps, save in the heydey of "uric acid," have so many generalizations about a clinical method been offered with so little documentary proof. We have been told that no one ever wholly forgets anything. We only wish 'twere true. The infant mind has been bared to us—alas for the phrases of long ago—"the innocence of babies," "a trough of slime, gentlemen, a mire of horrid filth—the baby's mind."

Sex fills the whole world for the Freudian. We are glad his day is over. We are glad Aesculapius has ceased to be.

"The bellows and the fan
To cool a gypsy's lust."

—Bulletin Jackson Co. Med. Society.

THE MODERN DANCES.

The modern dances are vulgar, ugly, and, in my opinion, disgusting. I would not repress them by force, because we have no right to interfere with "individual liberty," even if the exercise of that individual liberty leads the person directly to the devil. But if we could drive out those dances by moral suasion, by argument, it would be an excellent thing for the present and the future generation. That those dances are ugly and unesthetic may be a matter of individual taste. To me they may seem ugly, to you they may seem beautiful. But there can hardly be a difference of opinion as to their injurious effect on people's health. A dance that takes its inspiration from and ties to mimic sexual intercourse is an injurious performance and will undoubtedly cause, in a large number of cases, sexual irritation and hyperesthesia, prostatic and ovarian congestion, and will inevitably lead to sexual excesses.

Leaving out of consideration the moral and esthetic sides of the question, is it wise from the point of view of hygiene, to indulge in such performances?

And when a thing is both nasty and unhealthy, when it offends both good taste and the laws of hygiene, should we still say nothing and do nothing to bring about its abolition?

Do we not sometimes make a veritable fetish of individual liberty?—Critic and Guide.

State News

On February 26th our long-time member, Dr. C. R. Enslow of Huntington, was operated on for gall stones. He made an excellent recovery, which will be very pleasing to his many friends in the society. May his useful life be long spared.

* * *

Dr. F. F. Farnsworth, long a practitioner at French Creek, and a delegate in the last legislature, and chairman of the Committee on Sanitation, has sold his practice to Dr. H. O. Van Tromp, and removed to Williamstown, W. Va. The doctor is deserving of success in his new location.

* * *

Dr. M. T. Hoover, of Palmer, was married on March 9th at the parsonage of the First Baptist church, Clarksburg, to Miss Emma Boggs of Bois, Webster County, Va. The happy couple have our hearty congratulations.

* * *

Removals: Dr. J. S. Craig from Eccles to Wevaco; Dr. B. F. Connaway from Mannington to place unknown; Dr. F. P. Snodgrass from Tariff to Darlington, Va.

Dr. Rolla Camden, formerly of Parkersburg, announces that in his new location, Washington, D. C., he will limit his practice to Gastro-Entero-Proctology. He is at No. 915 Avenue of the Presidents.

* * *

The Ohio county society recently enjoyed a visit from our late member, Dr. A. Judson Quinby, now a teacher in the New York Polyclinic Medical School. He gave many beautiful demonstrations of X-ray work on stomach and intestines, showing kinks and obstructions that lead to so much mischief, not unfrequently necessitating surgical interference. It will be gratifying to the doctor's many friends in the state to learn that he has "made good" in the big city.

* * *

Drs. Harriet B. Jones and Thurman Gillespie of Wheeling, who have been "on the road" engaged with the tuberculosis car in teaching the people how to keep well, are at home for a time. The generosity of the railroad companies has vanished and they will no longer give free transportation to the exhibition car. Thanks for what has been done. May much good result from it.

* * *

The Secretary of the State Board of Health was recently in conference with the farmers at Clarksburg and gave them an hour's lecture on some of the sanitary defects of the farm.

* * *

We are glad to announce that Grant Mowers, who entered a suit for malpractice against Dr. H. M. Rymer of Harrisville, has voluntarily abandoned it. We surmise that the medical defense policy of the State Association had something to do with this result.

* * *

Our Wheeling member, Dr. H. P. Linsz, is to be congratulated on having recently been appointed an associate editor of the *International Journal of Surgery.*

Society Proceedings

The regular monthly meeting of this society was held the evening of March 12th, in the Hotel Frederick.

The evening was taken up with a discussion of matters pertaining to the incorporations of the society.

Dr. C. O. Reynolds of Huntington was elected to membership. The application of Dr. I. L. Kable was presented and referred to the Board of Censors.

Fraternally yours,
JAS. R. BLOSS, *Sec'y.*
Secretary.

EASTERN PANHANDLE SOCIETY.

CHARLES TOWN, W. VA., March 6, 1914.

The regular March meeting of the Eastern Panhandle Medical Society was held in the parlor of the Hotel Berkeley at Martinsburg, W. Va., on Wednesday, the 4th.

Eighteen doctors out of a membership of forty-seven were present. Those present were Drs. Swimley, president; Brown, Fry, Hirst, Johnson, McCune, Nawrath, Eagle, Oates, Clay, Miller, R. W., Henshaw, Nelson, Osburn Sponseller, Shipper, Bitner, Sperow, Skinner, and Dr. Lewis Allen of Winchester, a guest.

The first thing on the program was an address by the president, Dr. G. W. Swimley. This address was an historical sketch of the formation of the society and was pregnant with good advice for the society as a whole. All regretted the absence of Dr. H. C. Tonkin on account of sickness. Dr. Tonkin was on the program for a paper on "The Use of Pituitrin in Obstetrics." This paper will be read at the next meeting.

Dr. R. W. Miller read a very interesting paper on "Trachoma."

The society then adjourned for dinner which was thoroughly enjoyed by all.

At the afternoon session Dr. A. B. Eagle exhibited two very interesting cases, one a case of double hare-lip with cleft palate in a child fourteen days old; the other was one of athetosis in a child thirty months old. The following were elected as delegates to the State Society: Dr. J. McKee Sites, Martinsburg; Dr. W. W. Brown, Shenandoah Junction, and the secretary, Dr. C. L. Skinner, Charles Town. Other delegates will be elected at the next meeting, which will be held on the first Wednesday in May at Charles Town, W. Va.

C. L. SKINNER, *Sec'y.*
Secretary.

OHIO COUNTY SOCIETY.

October 27, 1913.

The society met with 30 members present, the new president in the chair. President Thornton gave his introductory address, bringing out many important points for the good of the society, its part in the work of the State Association, and its co-operation with the State Board of Health in local and general movements for the betterment of state sanitation. He set forth plans for the success of our society, and urged on every member the necessity of feeling individual responsibility in order to make the meetings successful and beneficial. After considerable discussion it was resolved to have two papers at each meeting, each not to exceed twenty minutes in length. After the meeting a "smoker" was enjoyed by some of the members.

November 2, 1913.

Society met with 23 members present, President Thornton in the chair. Dr. H. M. Hall read a paper on "The Pharmacology and Therapeutics of Salicylic Acid." Described the drug and its preparation, told of experiments on animals at the Western Reserve University, said that there is no difference in the action on animals of the synthetic and the natural varieties of the drug. He then told of its use in the various forms of joint inflammation, its toxic results, and the idioyncracies in some patients. He regarded the drug as ranking with strychnia and quinia in usefulness.

Dr. L. D. Wilson spoke of the use of stron-

tium salicylate and the use of the salicylates as chologogues.

Dr. Gaydosh spoke of its bactericidal power and its use in skin diseases. The paper was further discussed by Drs. Dickey, Baird, Megrail, Osburn and Quimby. Dr. Hall in closing said that the dose of diplosal, one of the very latest preparations, was one half that of the salicylate of sodium. The second paper was read by Dr. M. B. Kelly on "Choked Disk." He spoke of its pathology, and its importance in the diagnosis of intracranial lesions. Sometimes it is unilateral, generally of gradual appearance. Rarely appeared in three weeks. Then reported a case in which it appeared rapidly, and the onset of blindness caused by this was very rapid. Efforts at a diagnosis failing, a decompression operation was determined on. At this operation nothing was found as a cause except oedema of the brain. The patient gradually recovered her sight and at this time it is about normal.

Dr. Dickey dwelt on the importance of the symptom of choked disk, and explained its cause. Dr. Hupp reported a case of decompression operation in a comatose patient who regained consciousness 48 hours afterwards.

Dr. Fawcett gave the post-operative eye ground examination of Dr. Hupp's case. Dr. Schwinn explained and demonstrated diagramatically the two theories as to the cause of the formation of choked disk. He also exhibited the brain from a case of congenial syphilis in which there had been double choked disk. At autopsy a gumma could be readily seen on the anterior surface of the cerebellum and at the base of the fourth ventricle, thereby plugging the aqueduct of Sylvius and distending the lateral ventricles. The doctor also illustrated the origin and distribution of the cerebro-spinal fluid. Dr. Kelly said that the eye ground examination in the case reported twenty months after operation showed atrophic spots on the retina, the eye ground being otherwise normal.

Dr. Megrail exhibited an anencephalous monster and gave the history of the case. Dr. McMillen told of a case of miscarriage of twins at five months, exhibiting the twins and the placenta. The placental attachment of the cord in one was directly in the membranse and at the edge of the placenta.

Dr. Hall reported a case of insect poisoning. Dr. Thornton reported two cases of poisoning in children by eating fireworks called "snake in the grass." Cyanide of mercury was the poison in the snakes.

November 17, 1913.

The society met with president in the chair; twenty-five members present. Dr. Hupp read a paper on "The Open Treatment of Fractures." Indications for operation exist when good functional results are not apt to be secured without operation. The operation converts a simple into a compound fracture and introduces foreign bodies into the extremity. The surgeon who attempts this form of treatment should be well equipped to do the work properly. The doctor then described the technic of bone plating as given be Lane, with his results, as seen by him in Lane's clinic. The doctor discussed anesthetics and his preference is ether. Also spoke of the Hawley table for the reduction of fractures. He said that non-union in many cases was due to fixation of fragments preventing osteogenesis. He said that Lane never plates a compound fracture. In conclusion, the doctor discussed the medico-legal bearing of tracture treatment, showing a number of X-ray plates showing fractures and the results obtained.

The paper was discussed by Drs. Noome, Fulton, Quimby, Jepson and Burns.

The next paper was by Dr. W. A. Quimby on "Pyelography." The doctor spoke of the ability of the Roentgen rays to penetrate the tissues, describing in detail the use of the opaque catheter and the cystoscope in the diagnosis of kidney and ureteral conditions He said that patients usually referred to him for X-ray plates had presented symptoms of calcareous deposits in the ureter or kidneys. He then spoke of the injection of silver preparations into the pelvis of the kidney and leaving the catheter in the ureter before taking the plate; and said that over distension of the pelvis of the kidney caused tissue destruction, and insufficient distention failed to give a reliable picture. He said that movement of the kidney with repiration might also interfere with the plainness of the picture. He then spoke of renal varix, and that essential hematuria might be due to this cause. Pain in the injection is due to pressure. The doctor exhibited many plates showing dilatation of the pelvis due to kinking of the ureter. Also stone in the pelvis of the kidney and the ureter. These pelves and ureters had been previously injected with a solution of argyrol. Dr. Hupp spoke of the caution necessary in the use of collargol and recited a case in the practice of another physician where death resulted from its use. Dr. Fulton also discussed the paper. Dr. Quimby stated that there was no danger in the use of argyrol.

Adjourned.

J. EDWARD BURNS, *Sec'y.*

KANAWHA SOCIETY.

CHARLESTON, W. VA., April 2, 1914.

The next regular meeting of the Kanawha Medical Society will be held in the Assembly room, Hotel Kanawha, on Tuesday, April 7th, 1914, at 8:30 p. m., with the following program:

A brief discussion of the "Value of the Roentgen Ray" by Dr. R. H. Pepper, of Huntington, W. Va.

Discussion opened by Dr. W. R. Hughey.

"Diagnosis, Course and Treatment of Epilepsy," by Dr. Charles O'Grady.

Discussion opened by Dr. Geo. Lounsberry.

After the program refreshments will be served.

Delegates to the meeting of the W. Va. State Medical Association at Bluefield, May 13-15, 1914, will be elected at this meeting. Our representation at this meeting depends upon the number of paid up members at the time of election of delegates. If you have not paid or know of a member who has not paid please see that

this is attended to before our meeting on the 7th.

At this meeting, lists of books, instruments and office furnishings of the late Dr. Gregory will be offered for sale for Mrs .Gregory, and the lists include some very splendid items. Our meetings this year have been of unusual merit. If you have been unable to attend them you have been unfortunate. If you have neglected them you have been unwise. If you miss this meeting you will lose an opportunity.

Prepare a paper for the State Association meeting and let me have your subject at once. No papers reported yet from our Society. We must get busy. Yours truly,

A. A. SHAWKEY, *Sec'y.*

Medical Outlook

REMOVAL OF ENTIRE STOMACH.

Trinkler, (Germany), reports a case and summarizes twenty-five cases he has found in the literature in which the entire stomach was removed, with recovery of thirteen of the patients. The mortality was 57.1 per cent. in the cases in which the duodenum was united with the esophagus, but only 28.5 per cent. when the junction was between the esophagus and the small intestine. In his case he sutured the duodenum to the esophagus without difficulty, reenforcing the suture behind with a flap of omentum and leaving the front of the junction unsutured except to the lips of the skin wound. This permitted oversight of conditions and feeding· he intending to suture this fistula at a second sitting but the patient succumbed to inanition the eighth day. He thinks that this two-sitting technic offers many advantages. He credits the first attempt at total resection of the somach to Connor, but Schlatter's in 1898 was the first successful operation of the kind. Five other surgeons in the list are Americans.—*Jour. Am. Med. Ass'n.*

BULLET IN FOURTH VENTRICAL FOR YEARS.

DR. JAEGAR in Munchener med. Woch., describes a case which is perhaps unique. Patient was a man aged 27, who had attempted suicide with a revolver. The picture which had resulted from the injury was left spastic hemiparesis with ataxia, so-called "blickparalysis," "nystagmus" and numerous other disturbances of the eyes, bulbar speech disturbance, compulsory laughter, and attacks of clonus in the flexors of the paretic left arm. Some of these symptoms were doubtless due to the lesions made by the bullet in reaching the ventricle. The general location of the foreign body was readily shown by radiography. Later the patient was subjected to trephining as a hoped-for life-saving resource; for owing to the proximity of the important centers in the medulla there was danger that any destructive process might involve them. Certain disturbances in respiration and deglutition, while slight, caused some apprehension from this viewpoint. The trephine intervention undertaken by way of the occiput in the hope of extracting the ball not only failed but was followed by fatal collapse. The bullet was found high up in the ventricle in the middle line. The wound of the encephalon had resulted in areas of softening and the formation of cicatricial tissue.—*Jour. N. J. Med. Soc.*

CARCINOMA OF UTERUS IN GIRL EIGHTEEN YEARS OLD.

Dr. Edwin B. Cragin reported this case at a meeting of the New York Obstetrical Society:

The patient was only eighteen years of age and was seen in consultation with Dr. H. Seymour Houghton on April 26, 1912. For several months she had been suffering from menorrhagia which had responded in part to rest, the administration of ergot and other measures. When she was examined by Dr. Houghton he was very much surprised to find a large cauliflower growth which extended from the cervix. This growth was removed by Dr. Houghton and sent to Dr. Frederic E. Sondern for examination and he pronounced it to be a carcinoma. Slides of the growth were later examined by Prof. Francis E. Wood, Director of the Crocker Cancer Research Laboratory, and he concurred in Dr. Sondern's diagnosis.

On May 4, 1912, a radical abdominal hysterectomy (Wertheim operation) was performed by Dr. Cragin at the Sloane Hospital for Women. The patient made an excellent recovery and when seen on September 16, 1912, showed no evidence of any recurrence of the disease.

This case was reported as being the youngest instance of carcinoma of the uterus ever seen by the writer.—*Journal N. J. Society.*

PNEUMATIC RUPTURE OF THE INTESTINE, A NEW TYPE OF INDUSTRIAL ACCIDENT.—By E. WYLLYS ANDREWS, Chicago, *Journal of Surgery, Gynecology and Obstetrics,* January, 1911..

Dr. Andrews reports this unusual case: A man's fellow workmen seized him, and placed on his anus a tube of about sixty pounds' pressure. The air was quickly forced into his bowel. Instantly there was great distention of the abdomen; general appearance of emphysema from the clavicle down to the pubes. On admission, he was cyanotic; his respiration and pulse were almost absent. An incision was made in the abdomen under local anesthesia, and a large amount of air escaped at once. Five hours later, laparotomy was done, showing the following points of interest: The peritoneum was soiled with feces; there was a considerable amount of serous exudate in the abdominal cavity. There was a tear of five to six inches in the convex portion of the sigmoid, which necessitated a resection, followed by inversion of the end of the bowel, and lateral anastomosis. He irrigated the abdomen freely and thoroughly drained it. Recovery.

The West Virginia Medical Journal

Published Monthly
by
The W. Va. State Medical Assoication

Under the Direction
of the
Committee on Publication.

COMMITTEE ON PUBLICATION:
S. L. JEPSON, Chairman.
L. D. WILSON. G. D. LIND. C. A. WINGERTER.

Entered as second-class matter August 10, 1906, at the Post Office at Wheeling W. Va.

Vol. 8—No. 11. WHEELING, W. VA., MAY, 1914 Subscription Price $1.00 per Year Single Copies 15 Cents.

Original Articles

RECENT ADVANCES IN OUR KNOWLEDGE CONCERNING SYPHILIS.*

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The last ten years have marked a phenomenal epoch in the evolution of our knowledge of syphilis. There is hardly a department in the vast domain of medicine in which so much work has been done. It looks as if the medical world had determined to put an end to that shameful scourge of our modern civilization.

Syphilis is an old disease. Though many authorities claim that it was unknown prior to the fifteenth century, there are reasons for believing that it existed much earlier. The Bible contains some references to a disease which may be syphilis, and similar references are found in the works of some of the early medical writers.

The question whether syphilis was prevalent in America before the discovery is still a disputed one; some claiming that it was brought over from Europe, while others think it was brought to Europe from America, having presumably its source in the ancient civilization of Central America. Several epidemics of syphilis in Europe confirmed the view that the disease was produced by a transmissable virus, and during the latter part of the nineteenth century attempts were made to ascertain the causative agent of syphilis. But these attempts were not crowned with success. There existed a confusion between chancre and gonorrheal infections; the microscopes were crude and the technique of staining had not been perfected. Ricord about the middle of the nineteenth century clearly differentiated the chancre from other venereal diseases, and Bassereau separated the chancre from the chancroid. Meanwhile the improvements in the microscope and in the technique of staining made finer studies in the detection and differentiation of microorganisms possible.

We see, then, that many cocci, bacilli and protozoa were brought into etiologic relationship with syphilis. Thus Lustgarten has discovered a bacillus which up to the last few years was thought to be the causative agent of syphilis; it resembles the tubercle bacillus in its morphology and staining properties.

Two discoveries, namely, the successive inoculation of animals with syphilitic virus and the discovery of the organism of syphilis, helped to clear our knowledge of syphilis out of the chaos which has surrounded it and to place it among the infectious diseases.

Successive inoculations of monkeys with syphilis were reported by Klebs (1879), Martineau and Hamonick (1882), Sperk (1888); the last of these observers likely has transmitted it several times.

It occurred to Metchnikoff and Roux, as it had occurred to others, that the monkey, on account of its resemblance to man, should be the most suitable animal for the production of experimental syphilis. This was observed by Neisser, who recog-

*Read at the meeting of the Kanawha Medical Society, Charleston, W. Va., March 3, 1914.

nized a scale of susceptibility which corresponds roughly with the proximity of different species to man, as indicated by their general morphology. This discovery admitted the disease into the field of experimental medicine. Once any animal has proven to be susceptible to inoculation with the disease, syphilis was thrown open to medical experimentation (Gottheil) and syphilis ceased to be, like laughter, the prerogative of man.

The second discovery was that a spirochaete (Spirochaeta Pallida) is the causative agent of syphilis. As this discovery is of such vast importance it would not be amiss to narrate some of the facts which led to this brilliant discovery.

I spoke of the bacillus of Lustgarten which was held for some time to be responsible for the production of syphilis. Later Kassowitz and Hochinger alleged that a streptococcus and a diplococcus were the casual agents of syphilis. At this period Klingemueller and Barman decided to verify the prevailing opinion that the agent was a virus belonging to the so-called invisible micro-organious. They obtained the virus from primary lesions and condylomata, mixed it with normal salt solution and triturated it for two hours. The emulsion was then filtered through a Berkfield filter. With the products passed through the filter they have inoculated themselves by injecting it subcutaneously. No lesion followed. They decided that the micro-organism of syphilis did not pass through the filter and therefore could not be classed among the invisible organisms.

Metchnikoff and Roux decided to verify the above described experiments. A chimpanzee was inoculated with the filtered liquid by scratching the skin. Another chimpanzee was inoculated in the same manner with the emulsion which had not been filtered. The first animal showed no manifestation, while the other showed, thirty-seven days after inoculation, a chancre at the injection point, followed by an enlargement of lymph nodes and by a typical eruption.

It was entertained that syphilis may be caused by a protozoon, and in 1905 Siegel, a German zoologist, described the cytorrhyctes luis in blood and exudates of syphilitics. It found support among some leading German zoologists. The controversy among the various factions was so bitter that a commission of medical men and naturalists was appointed in February, 1905, by Kohler, director of Imperial Sanitary Bureau of Berlin. The commission was composed of Hoffman, the first assistant of Lesser, for the clinical and histological side, Neufeld and Gonder for the bacteriological side and Schaudin for the zoological side.

Schaudin was unable to find the organism of Siegel, but on the third day of March, 1905, Schaudin, examining the extravasation of one of the papules of labium majus, was struck by the presence of spirochaetae pallidae, the causal agent of syphilis. This was substantiated by other members of the commission. The news spread through Paris and the discovery was corroborated by other scientists. On May 17, 1905, Schaudin and Hoffman presented to the Medical Society at Berlin a communication entitled "On the Spirochaeta Pallida in Syphilis, and the Difference Between This Form and Other Species Belonging to This Genus."

Wasserman Reaction.

Simultaneously investigations were undertaken with the view of ascertaining the properties of human blood after it had been infected with various organisms. Thus Nuttall in 1888 proved that normal blood serum had certain bactericidal properties, which Buchner found could be destroyed by heating the serum to 56° C. It was also found that guinea pigs could be immunized to cholera by injecting the bacilli in increasing doses, allowing an interval between each two injections. The immunizing agent is developed in the blood in gradually increasing amounts as shown by the fact that such blood shows greater bacteriolytic power for cholera bacillus than normal sera.

In 1901 Bordet tried injecting one animal with the blood corpuscles of an animal of a different species and found, after a few injections, that the serum of the injected animal had acquired the power to rapidly dissolve the red cells of the second animal when brought in contact with them in a test tube. He found that the action was specific, and the property was called the complement fixation test. The later experiments of Gengout and Metchnikoff have proven that in the serum of an

animal immunized against bacteria or red blood cells there are developed two substances, and that their presence is necessary for specific action of that serum upon the agent originally producing them.

In 1906 Wasserman made use of this Bordet Gengout reaction. He placed in a test tube an extract of syphilitic liver; as an antigen to this he added the blood serum of a syphilitic patient, with complement of fresh guinea pig. After a period of incubation he added well washed sheep corpuscles and an anti-sheep hemolytic amboceptor in the form of serum from a rabbit whose blood has been rendered actively hemolytic to sheep corpuscles by repeated injection of such corpuscles into the rabbit. The result was that no hemolysis took place, for as the amboceptor operates only in the presence of a complement, and as this has been fixed by uniting the syphilitic antigen and the patient's syphilitic antibodies, the subsequent addition of sheep corpuscles will remain and the result will be absence or partial inhibition of hemolysis.

In 1907 Weil and Braun showed that extract of normal liver can be used instead of syphilitic liver, and later on it was found that any lipoid substance can be used as antigen.

Noguchi found that the Wasserman method is subject to error, as the presence in human serum of a varying amount of natural anti-sheep amboceptor would hemolyze the sheep corpuscles and thus prevent the detection of small amounts of syphilitic antibody. Noguchi uses human corpuscles, which is combined with human serum, thus doing away with foreign natural hemolytic amboceptor which is accidentally present.

It would be useless to take up any of your time in discussing the importance of the Wasserman reaction in the diagnosis and treatment of syphilis; the current medical literature teems with the reports on the reaction, its range of usefulness and application are widely recognized and established and the test constitutes a most valuable part of the physician's armamentarium.

Salvarsan.

Salvarsan still commands the attention of the world in general and the medical profession in particular. It is an organic compound of arsenic prepared by Berheim, biologically tested by Hata, and introduced into the medical profession by Ehrlich in 1910.

It had been known for several years that arsenic when administered to syphilitic patients produces amelioration of symptoms. Yet the preparations employed, though in therapeutic doses, produced such serious consequences that its further use became hazardous. Even Ehrlich's early arsenical preparation, arsacetin, failed, but the failure only stimulated him to delve deeper into the nature of arsenic and form a compound whose use would prove efficacious in the treatment of syphilis.

The principle by which Ehrlich was guided in preparing the preparation of arsenic was that the synthetical product must be deadly to the parasite and inocuous to the host; that the dead parasite in liberating endotoxins will produce enough antibodies to protect the patient.

The various compounds of arsenic were tested by Hata on animals before being employed upon human beings. Excellent results were obtained in mice with recurrent fever, in the spirillosis of fowls and in rabbit syphilis.

The desideratum of Ehrlich was that one single injection of the salvarsan shall prove able to destroy all the parasites, and and for this reason he called it Therapia Sterilisans Magna, for it had been shown at that time that repeated small injections of salvarsan tend to produce in the organism a resistance to arsenic, i. e., arsenic fast.

Cultivation of the Spirochaeta Pallida.

The discovery of spirochaeta pallida and Wasserman reaction and the introduction of salvarsan were far from being the last word said in syphilis. In order to fulfill Koch's three postulates in regard to the causation of a disease it was necessary that the specific organism should be isolated in pure culture. After several unsuccessful efforts by several investigators to cultivate the spirochaeta pallida (Mulens, Hoffman and Shereshewsky), Hideo Noguchi in 1911 announced to the world that he had succeeded in growing pure cultures of sprochaeta pallida. While other investigators used human syphilitic tissues, Noguchi employed the spirochaeta containing testicular tissue of rab-

bit. The culture medium which has proven to be most suitable was serum water, to which a piece of sterile testicle of the rabbit had been added. Strict anaerobiasis is necessary for successful growth of the spirochaeta. From this medium the growth can be transplanted to a solid medium. In his later investigations Noguchi succeeded in growing the spirochaeta pallidium in a fluid medium of ascitic fluid and bouillon.

At first the organism was obtained from syphilitic testicles of a rabbit, but in his later works they were obtained from human affected organs, as chancres, condylomata and gummata. The isolated spirochaeta proved to be pathogenic to monkeys. Noguchi also studied the cultural characteristic of the spirochaeta pallidum and other allied spirochaetae, and he clearly established the differential diagnosis between spirochaeta pallidum and spirochaeta refringens, spirochaeta phagedenis and spirillae found in the oral and buccal cavities.

Luetin or Cutaneous Test for Syphilis.

Governed by the same principle which led V. Pirquet to the cutaneous test for tuberculosis, Hideo Noguchi set out to prepare an emulsion of dead spirochaeta, the said emulsion to be inoculated subcutaneously into patients suffering from syphilis. He at first experimented on animals and later at the suggestion of Dr. Welch applied the test to human beings. The technique of the test is very simple; 0.5 c.c. of spirochaeta containing emulsion or luetin is injected intradermically on one arm, while the same amount of the control is injected in the same man into the other arm. The control is prepared in the same way as the luetin, with the exception that it does not contain any spirochaeta. Surgical cleanliness is necessary in performing the test.

About twenty-four hours after injection there appears around the area of injection a small erythematous area with no pain or itching. This quickly disappears and leaves no induration. Occasionally a small papule may be found about 24-48-72 hours after injection and then quickly subsides; there is no induration left. This is known as a negative reaction.

A positive reaction may manifest itself in several forms. (1) Papular form, becoming (2) pustular, and (3) torpid or latent form, meaning that there may be no reaction at the injection point for 3 to 5 days, but sometimes these spots light up again.

Several theories have been advanced to explain the phenomena of the reaction.

Finger believes that the introduction of the needle causes a weakened spot to which the syphilitic virus wanders, thus producing the reaction. Neisser thinks that the reaction produced is due to an allergic condition of the skin, either a hypersensitiveness or a hyposensitiveness. When additional luetic toxin is introduced a phenomenon of anaphylaxis takes place. This phenomenon requires a certain time and this is the reason why we do not get any reaction with luetin in the first stage.

Luetin reaction is especially valuable in tertiary lues, where the Wasserman reaction is not constantly present. It is also invaluable in treated cases of syphilis which give a negative Wasserman reaction.

Cerebro-Spinal Syphilis.

Cerebro-spinal syphilis, the so-called para or metasyphilitic affections, are terms which in the light of our present knowledge need complete modification. The demonstration of the spirochaeta in the brains of paretics by Noguchi and Moore, or in blood vessel walls by Longscope and others, have shown that general paralysis is the result of proliferation of the spirochaeta in the cerebral cortex. The term parasyphilitic lesions means that the cerebro-spinal nervous system is invaded by spirochaeta pallida.

The invasion of cerebro-spinal system by the spirochaeta is characterized by definite findings in the cerebro-spinal fluid. In 1903 Ravant showed that the spinal fluid of a large number of syphilitics at all periods of the disease present a lymphocytosis, meaning a meningeal disturbance.

Jeauselme and Chevalier showed that the spinal fluid is negative in the first stage, but during the secondary period it is shown to contain a lymphocytosis and increase in globulin. Later observers have proven that the Wasserman reaction is positive in the spinal fluid of syphilitic patients; if not plus it does not mean that syphilis is not present, as long as the cell

content, the proteid or glucose is in excess. The diagnosis of cerebro-spinal syphilis ought not to present any difficulties at the present time.

With the improvement of the diagnosis of cerebro-spinal syphilis comes an improvement in our method of treatment; the combined treatment, i. e., salvarsan and mercury treatment is shown to be vastly superior to treatment with salvarsan alone.

The method of Swift and Ellis of Rockefeller Institute, in which they use salvarsanized serum in the treatment of cerebro-spinal syphilis, is becoming more and more established. Reports received from various clinics where the method has been used are very encouraging.

Much has been done in the treatment of syphilis, but more remains to be done. Surely the world has determined to put an end to that shameful scourge of our modern civilization.

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"The lawyers are the cleverest men, the ministers are the most learned, and the doctors are the most sensible."—Oliver Wendall Holmes.

CONCERNING SALVARSAN

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While there may possibly be some who yet blindly believe salvarsan a **therapia sterilisans magna** in syphilis, I am able to find in an extensive study of recent literature but one syphilographer who claims to effect a permanent negative Wasserman and freedom from relapses with "606." He is Wechselmann, who was the first or one of the first to use salvarsan, obtaining the drug from the discoverer and doing most of the clinical experiments for Ehrlich.

J. E. R. McDonagh administers salvarsan in .1 to .2 gm. weekly doses until a negative Wassermann appears 48 hours after an injection, it being firmly established that at this period the reaction will be of the greatest value in determining the presence or absence of lues. After a negative reaction appears the case is treated throughout its course with mercury alone.

Finger believes salvarsan is absolutely contraindicated in secondary syphilis, but uses it in Wassermann-negative chancres, in tertiary lesions and in so-called meta- and parasyphilis. He asserts that the action of salvarsan and mercury is similar; that neither are spirillicidal, but that both stimulate the production of antibodies which destroy the spirochaetae and neutralize their toxins. He gives mercury the preference. It has been repeatedly demonstrated in his clinic, with wet smears under the microscope, that salvarsan in the dilution commonly injected exerts no influence on the spirochaeta. Hence it cannot be parasiticidal and we must accept his theory of indirect action.

Joseph Sellei maintains that relapses are the rule after one or many injections of salvarsan, that these are of serious nature and peculiarly rebellious to treatment with arsenic or mercury or both. Numerous observers concur in this. The obstinacy of the relapsing cases is explainable on the ground of overstimulation of the body by repeated use of large quantities of arsenic so that the blood remains in a purely negative phase and cannot be made positive again, which idea originated with Wright.

Unna is reported as saying that the future will furnish more cases of tabes and cerebral syphilis than the past, and this lamentable outlook is probably too true if we may judge from the careless way in which many cases are now being treated since the advent of "606." Patients who have had one, five, ten or more injections of salvarsan are lulled into a sense of repose from which we seem unwilling to arouse them. According to this eminent authority luetics as a class would be better off if salvarsan had never been marketed.

Eliasberg has employed the drug in every stage of syphilis; he has never succeeded in aborting lues even in selected cases and finds affections of the central nervous system irresponsive to the preparation. His experience with salvarsan in secondaries has been unsatisfactory and he maintains that the blood reaction is uninfluenced in this stage by "606." He says further it is of no value except in tertiary deposits and that it is positively detrimental in every other instance.

The statement is often heard that salvarsan is not a dangerous remedy. This does not agree with the following from Mucha: "Just think, 242 deaths from salvarsan in three years against 70 fatalities in 60 years from the hypodermic use of mercury." Hallopeau affirms that except for a "conspiration du silence," which is especially marked after unfortunate salvarsan results, the number of deaths reported would easily be tenfold what the present statistics show. If this is true the mortality attributable to "606" equals that following many major surgical procedures.

Treatises by Lesser, Gaucher, Jadassohn, Brocq and numerous others express opinions and advance conservative suggestions which do not differ materially from that previously outlined. When we consider the great number of times these writers have made use of this agent and remember that their statistics are impartially compiled it at least should give us food for deep and serious thought.

But another side presents itself, or, as one writer has it, "There comes Wechselmann." Against this array of conservative and adverse criticism he stands, and upon him the ultimate fate of salvarsan therapy may possibly depend. Where others condemn, he praises; where others abuse he extols; where others are in doubt all is clear to him; where others fail he claims success. He is truly salvarsan's champion. His results are never disappointing to himself, and though he admits fatalities, even under his own supervision, he is ever ready with intricate explanations exculpating "606." It is superfluous to add that his reasoning is often jeered at and that his statements are not widely accepted.

What, then, is the present usefulness of this agent that three short years ago was heralded as the death-knell of syphilis? What of its future? Should we use salvarsan in every case and in every stage? If so, how many doses should we employ, in what quantities and at what intervals? Now that we have "606," should any cases be treated with mercury alone? Is salvarsan or mercury more potent, or should each case have the benefit of a combined treatment and would this be a benefit? Do we give salvarsan in too large and too frequent doses and so bring about fatalities or at least ruin our patients' capacities for producing the essential antibodies? Do we give mercury as faithfully as we should? Would our patients be better treated if we had never had "606" at our disposal? Will there be in the future more tabetics? And finally do we in a great many instances achieve more satisfactory results than we did before Ehrlich's discovery? These and many other questions it is our duty to study and if possible to find the answers. Like the immortal Hashimura Togo, "I ask to know."

Coyle and Richardson Bldg.

SOME CONSIDERATIONS IN LIFE INSURANCE EXAMINATIONS.

J. T. Thornton, M.D., Wheeling, W. Va.

(Read at Annual Meeting of State Med. Asso. May, 1913)

The role of critic is at best unpopular and usually meets with little appreciation; nevertheless it behooves us at times to review our failures and shortcomings to the end that we may profit thereby.

Acting in the capacity of medical referee for a life insurance company, I have had occasion for the past six years to review examinations made by physicians all over West Virginia and to correspond with the examiners whenever it was necessary to secure additional information. A review

of the letters I have written shows numerous questions repeated time and again; it is on these questions as a basis that the present paper is constructed.

Perhaps the majority of you at one time or another make medical examinations for life insurance companies. To be sure this work is regarded as a side issue in your regular practice, but it is a trite truism that anything worth doing is worth doing well. The object of my paper is to assist you to do well this work of examining applicants for life insurance I purpose not only to point out failures, but also to suggest methods by which the quality of work may be improved.

The subject of life insurance examinations is much broader and deeper than would appear on superficial observation, and is well worth study by any physician.

Insurance examiners as a class have a high regard for the moral responsibility involved. They received their appointment not only by reason of professional attainment, but also on account of moral integrity. It is the bounden duty of the examiner to protect the interest of the company by rendering a report on each applicant, accurate and complete in every detail, without suppression or distortion of facts. To do this is not always an easy matter, and may require the exercise of a high degree of moral courage, in addition to painstaking care in the examination itself.

Of all errors the most frequent, and one common to nearly all examiners, is the omission of answers to questions. This is due to simple, unadulterated carelessness. The common aim of the medical directors of all insurance companies has been to reduce the examination blank to the simplest terms. This has been accomplished by a process of elimination and condensation, with the result that only essential matter is retained, so that each and every question must be answered clearly, fully and concisely, to the end that the men at the home office who pass upon applications may secure a true picture of the applicant as an insurance risk. While some of the questions may appear to you unessential, they are not really so. At any rate, the medical director wants answers to all questions, and it is your duty to give them. The way to avoid the error of omissions is to read over carefully your report and see to it that every blank space contains an answer to a question.

I have in mind a physician who is a splendid examiner, conscientious and capable, but who would fail invariably to answer one or more questions in every examination. After a time he apparently discovered that it was less trouble to review his answers before mailing the application than to answer the numerous letters of inquiry; now he is an ideal examiner in every respect.

An omission not entirely due to carelessness is frequently made in the family record. The question number of brothers or sisters living or dead is left unanswered when the answer should be, "None," the examiner assuming that an unfilled blank is equivalent to a negative answer. Manifestly this is not the case, and you should give a definite answer to the question.

Closely allied to the error of omission is the use of dashes, ditto marks and similar abbreviations. Such time-saving devices are not permissible and will not be accepted as answers to questions.

The rule that no third person should be present while the applicant is answering questions should be strictly observed. In the presence of a third party the applicant is more tempted to suppress detrimental facts than when with the examiner only. During the physical examination there is no objection to the presence of a third person; in case the applicant is a woman it should be the custom to have some one else present at that time.

It is the practice of many examiners to make the physical examination of the chest without having the applicant remove the clothing. Manifestly an examination made under such conditions is valueless. It is best to make the examination on the bare skin, and in no case should the examination be conducted through more than one thickness of clothing. Certainly if you were examining a patient for suspected heart or lung lesion you should require that this condition be fulfilled, and your examination of an insurance applicant should be no less thorough than that of a private patient. I have found that any objection on the part of the applicant to the removal of clothing can be overcome readily by the exercise of a little tact. The simple statement that the company will not accept the examina-

tion made through thick clothing usually produces the desired result. Another device is to begin auscultation through the clothing, then remark that you cannot hear very well and request that the clothing be removed. One examiner told me that by having applicants remove their collars he had detected several cases of goitre that otherwise would have been overlooked.

The determination of the authenticity of the urinary specimen is a source of trouble to some examiners, especially when the applicant is a woman. While attempts at fraudulent practice are not usual, they do occur, and the substitution of urine is one of the most common. The requirements of the companies in this respect are entirely reasonable. They do not require that the examiner actually see the applicant void the specimen, but it must be passed under such circumstances that the examiner may be morally certain of its authenticity. When you receive the specimen you should observe whether or not it is still warm. In no event should you accept a specimen that has been sent or brought to you. If you have no reasonable doubt that the urine was voided by the applicant you should answer "Yes" without qualification the question, "Do you know that the applicant passed this urine?"

It is remarkable how many applicants fail to answer correctly the question, "Age at last birthday?" No one question is so frequently answered incorrectly. In most cases the date of birth has been given by the agent in his portion of the application blank, and it is a matter of simple mental arithmetic to verify the age as given by the applicant. The examiner should do this in each instance.

The question, "Race?" is variously answered. "American," "German," etc. From your early studies in geography you learned that there are five races of men, namely, Caucasian, Semitic, Negro, Indian and Mongolian. It is to this classification of mankind that the question refers.

"Straw color" is an answer occasionally made to the question, "Is the urine voided clear or turbid?" This answer gives the color of the urine, but furnishes no information as to the presence or absence of turbidity. If the urine is turbid, the cause of turbidity should be determined and stated in a foot-note. For example, turbidity due to the presence of phosphates is cleared by the addition of a few drops of acetic acid.

In the family history you record the state of health of the living members of the immediate family. Frequently the health is said to be "fair," "poor," etc. When the state of health is not good you should give the exact nature of the impairment.

If the pulse rate is found to be unduly rapid it is important to determine whether the rapidity is due to nervousness or other temporary cause, or whether the heart is habitually overacting. When I suspect that the cause of rapidity is nervousness due to fear of examination, I distract the applicant's attention by having him read a newspaper or book and count the pulse while his mind is thus engaged. As a rule the pulse rate will be markedly reduced by this procedure; if not, it will be necessary to see the applicant at some other time and re-examine the pulse. An applicant with an habitually overacting heart is an unfavorable risk. The same remarks apply to an intermittent or irregular heart.

When there is a personal history of recent disease or of physical disability the company will usually require detailed information regarding the same. If the examiner is able to secure the information at the time of examination, he will save the applicant, himself and the company considerable trouble. I shall consider briefly some of the more common of these conditions and point out in a general way the line of inquiry.

The height of an applicant should invariably be carefully measured. The weight is preferably taken by scale, but may be estimated except when it is near the minimum or maximum as given in the table of heights and weights accepted by the company, in which case it is necessary to obtain the exact weight by scale. Most companies use the table prepared by the Association of Life Insurance Medical Directors, the weights being taken in ordinary clothing, and the heights with the shoes on. If the applicant is near the maximum weight, you should state whether or not heavy weight is a family characteristic, if the applicant is active and muscular, how long he has had the

present weight and whether over-weight is due to large bones and muscular development with long body and short legs or to excessive deposit of fat. Similarly if the applicant is near the minimum weight, you should state whether or not light weight is a family characteristic, if it is due to small bones and short body, if the applicant is active and muscular, and how long he has had the present weight. Young under-weights and old over-weights are scrutinized with special care; on the one hand is the suspicion of liability to tubercular infection, on the other there is evidence of imperfect oxidation with accompanying fatty degeneration. However, over-weights and under-weights are not necessarily debarred from insurance, as each case is judged on its merit.

The question of alcoholic habit is the **bete noir** of life insurance companies—the most difficult problem with which they must deal. The difficulty lies largely in the employment of vague terms, as temperate, moderate, etc. Each man has his own idea of what constitutes moderate drinking and usually considers that his own consumption is moderate. The same elasticity is applied to the meaning of the term intoxication, and many hold that they are not intoxicated so long as they are able to call a cab. It has been proven conclusively that the expectation of life is distinctly less for the intemperate than for the temperate and the total abstainers. I feel confident that many applicants are given insurance who are not suitable risks on account of alcoholic habit. Likewise some applicants are refused insurance on account of suspicion of intemperance that in reality does not obtain. I hasten to add that this is not the fault of the medical directors, who certainly use every effort to arrive at the truth. The applicant should be thoroughly questioned regarding his habits and the facts concisely stated. If the applicant acknowledges that he has been intoxicated the exact circumstances should be given. For instance, the excess may have consisted in a few hours of hilarity at a banquet or other convivial occasion. When there is history of excess the company will usually want to know how often the applicant has been intoxicated in the past five years, the approximate date of last intoxication and the duration of the sprees.

When there is a history of operation for appendicitis the examiner should make it a point to state whether or not the appendix was removed. He should also note the condition of the scar, the presence or absence of hernia at the scar, and if it was a pus case that fact should be stated.

If the applicant has had any digestive derangement you should determine the exact nature of the complaint. Frequently the examiner states that the applicant had a "bilious attack" or dyspepsia or indigestion. Unless the condition is more fully described such an answer invariably necessitates a letter of inquiry for additional information. With reference to digestive derangements the most important points to determine are whether or not there was any suspicion of appendicitis, renal or hepatic colic, and if there are any remaining effects. This information you should give in a foot-note.

If there is history of tuberculosis in the family, or if the applicant has been associated with a person now suffering from or recently died of tuberculosis, the examiner should note how intimate was the association, the nature of hygienic precautions and whether or not the applicant is still exposed.

If the applicant has had rheumatism, first determine whether the rheumatism was muscular or articular. Muscular rheumatism is of little importance from an insurance standpoint, while articular rheumatism is of the greatest importance. If the rheumatism was articular note the number of attacks, date and duration of each, the joints involved and the presence or absence of heart involvement.

Any history of spitting or vomiting of blood should be investigated with great care, no matter how trivial the incident may appear. You should obtain the dates and full particulars, especially regarding the source of blood. Frequently the applicant may have had tuberculosis of the lungs with haemoptysis and made an apparent recovery through encapsulation, but at any time under favorable conditions the process may become active.

When there is history of amputation the company will wish to know the exact point of amputation, present condition of

the stump and reason for amputation.

Hemorrhoids in an applicant over forty years of age are regarded as of considerable importance and should be investigated carefully with reference to suspicion of malignancy.

Bear in mind that the medical directors never see the applicant, but form their opinion entirely from the picture given by you. Sometimes an examiner will say that if the men at the home office could see the applicant he would not be rejected. If this is true you have failed to do your part and given an incorrect picture.

One additional point and I am through. The insurance companies do not like to write to you for additional information any better than you like to receive these letters. Every letter of inquiry means delay in issuing the policy, especially since many examiners do not reply promptly. These inquiries should always receive your immediate attention, even though the questions may seem to you trivial and unimportant. Recently I attended a meeting of insurance examiners, the chief object of which was to discuss methods by which correspondence with examiners might be lessened. I trust that these remarks may lead the examiners of West Virginia to the exercise of a little more care and thought in this line of work, to the end that they may rank with the various companies as the best examiners.

MORPHINE AND ALCOHOL AFFECT THE BRAIN CELLS.

J. W. Williams, M.D., Richmond, Va.

"From a medical and scientific point of view we have this physiological fact before us, that the first thing alcohol (and morphine as well) does in ninety-nine cases out of one hundred is to affect the mental working of the brain of the man who imbibes—uses them."—Dr. Clouston.

Morphine and all narcotics follow a definite law in their action upon the human body, attacking man's higher nature first, the brain cells. The cerebrum ministers to the highest mental faculties of man, and this is the organ first attacked by the class of drugs we call narcotics; then all of the other organs of the nervous system in the order and importance of their functions and in the inverse order of their development. Next it affects the cerebellum, the organ of co-ordination; then the spinal cord, and finally it affects the medulla oblongata. The respiratory and cardiac centres are located here—in the oblongata. We have all seen the cerebrum so affected by both morphine and alcohol that the patient lies before us unconscious, and we have all seen the cerebellum so disturbed by these drugs that walking was impossible—the power to co-ordinate the muscles was lost, but both respiration and circulation continued, though greatly depressed, and life exists, yet as soon as the respiratory and cardiac centers in the medulla were injured death ensued. "All cerebral stimulants affect the cranial centers in the inverse order of their development—the intellectual faculties first, then other vital functions, and last and lowest of all the functions of respiration and circulation. Is it not certain that a center thus daily and hourly exalted and depressed will, in time, be injured?"—Dr. Barringer.

During the last few years much work has been done in Europe and in this country in the post-mortem examinations of the brains of (a) animals and (b) of men who died from narcotic poison—alcohol, etc. From the results of these painstaking investigations we know much of the damaging effects of these drugs upon the cells of the brain. We are now saving 85% of all such cases, taking them as they come, in all stages of the disease, whereas four years ago we could not save one per cent of them. That an "elective affinity" exists between nervous tissue and morphine, alcohol, etc., has been noticed for some time. But why this elective affinity? Why, for instance, does podophyllin, leptandrin, euonymin and calomel act upon the liver; ipecac, lobelia and sulphate of copper upon the stomach; epsom salts and phosphate of soda upon the bowels, and morphine, alcohol, cocaine, heroin and all narcotics upon the cerebrum first? "It has been noticed that all substances which are soluble in fats and do not injure animal tissue are narcotics."—Cutten, B.D., M.A., Ph.D. (Yale), Psychology of Alcohol, p. 15. I put ¼ grain of morphine into a dram of olive oil. It was dissolved in less time than one minute; so, too, of alcohol. I think the statement of Prof. Cutten is correct. "The power of a narcotic

is noticed to bear a direct relation to its affinity for fats, and an indirect affinity for water. By testing the relative solubility of olive oil and water with any narcotic the exact narcotic effect can be calculated."—Ibid.

Baunstork and Pattowsky have given us, respectively, an analysis of brain tissue (gray matter). Now, fats predominate in the brain cells. "Lecithin, cerebrin and cholesterine are soluble in alcohol."—Cutten's Psychology, p. 17. Here we are in sight of the reason why morphine and alcohol and all other narcotics affect, first, the higher mental faculties of man in regular sequence and in their relative order, as stated above: First, the cerebrum; second, the cerebellum; third, the medulla, and last and lowest of all the cardiac and respiratory centers. There seems to be no exception to this rule. The brain is encased in a hard, bony skull to protect this highly organized organ from injury, and the only way morphine, alcohol, cocaine, etc., can injure the brain cells is through the medium of the blood, and just as surely as the drug is injected into the blood by the hypodermic needle, just so surely does it reach the cells of the brain through the two internal carotid and the two vertebral arteries more quickly than by mouth and the injury is more disastrous. The morphine and alcohol are dissolved in the brain cells (composed of fatty matter mainly), not the cells in the drugs, as was formerly supposed. "The changes in the cells are startling. These degenerative changes continue until all that is left is a gnarled, knotted stump. When the degeneration is advanced the cells show signs of decay and disintegration, but even before this the cells show a lack of nutriment. The coagulating albumen thickens and clogs the cell membrane, thereby hindering endosmosis and the assimilation of nutriment materials on the one hand and exosmosis or excretion of broken down or effete products on the other."—Cutten, p. 24-25.

Just here I wish to quote a similar statement (corroborative) from Sir Victor Horsley's work. He gives photographic sections of the brain taken from the sensori-motor area of healthy men who died and sections of the same area of the brains of the alcoholics who died at Claybury Hospital. "The contrast is striking. The nerve cells in the alcoholic brains have extraordinarily **diminished** in numbers, having **degenerated** and **wasted away.** The cells **degenerate, shrink** and **disappear.** The cells damaged in this way **never** recover, and as far as we know are **never** replaced."—**Alcohol and the Human Body,** p. 121.

The testimony of these two careful investigators working in different countries is independent, yet mutually corroborative. Sir Victor Horsley published his work in Europe in 1911 and Prof. Cutten the **Psychology of Alcohol** in this country in 1912.

Is the use of morphine on the increase? In a recent work just published the author says: "Four hundred thousand pounds of opium are imported into this country every year, when fifty thousand pounds would cover all medical purposes. We have four million drug addicts. In France official statistics show that twenty per cent of the medical profession die of morphinism."—**Leviathan,** 174-179. But can these unfortunate cases (often the victims of careless physicians) be saved? Yes. This Leviathan, this demon, this monster who has cursed and destroyed hundreds of thousands of some of the brightest and noblest of our race after subjecting them to untold mental and physical sufferings and tortures, to escape which thousands of them have rushed into suicide or (as a result of brain cell destruction) have died in insane asylums, leaving in their wake ruined homes, degenerate offspring and crushed, hopeless and broken-hearted wives—yes, they can be saved. This drug demon has been conquered, his poisonous fangs extracted and he now lies helpless at the feet of medical science. But cured how? Cured by **elimination** (by casting out the demon) through the bowels, kidneys and skin, and **only** in this way, all the claims of the "fake" sanitaria and "home cures" advertised in the newspapers to the contrary notwithstanding. As surely as the system has the power to lay up the drug in the various tissues and organs of the body—the blood, cells, muscles and other organs—just so surely as the elimination is thorough and complete through bowels, kidneys and skin, will the indescribable wretchedness and agony of the patient subside and give place to "a feeling of comfort"—and the patient is

cured because the cause has been removed. He will lose about ten pounds of flesh in two weeks, but the system, now freed of all effete matter and toxins, and the blood rendered pure, nature rapidly repairs the damage done, while the victim's sufferings are reduced to the minimum. I recently secured 140 stools in two weeks, from a very prominent lawyer, a judge who graced the highest judicial position in his state. He came to me, sent by his physician and brother, direct from a sanitarium where he had spent three weeks, and "during that time did not average one stool a day and suffered (to use his expression) the tortures of the damned."

401 E. Franklin Street.

SOME COMMON ERRORS IN NEUROLOGICAL DIAGNOSIS AND TREATMENT.

By Tom A. Williams, M.B., C.M., Edin., Washington, D. C.

Corresponding Member Socs. of Neurol. and Psychol. of Paris, Neurologist to Epiphany Free Dispensary, etc.

The fundamental error too common in contemporary therapeusis, happily passing away now, is the striking at the symptoms. It is the groundwork upon which is built the nostrum evil. These compounds make appeal only to physicians versed in nothing but pharmacodynamics. Pathogenesis teaches better. Because one knows how to slow a rapid heart is no reason as to its desirability for the patient's sake. A pained abdomen does not command an opiate (but rather the knife). Is there any more reason why a pained cerebrum should? Stupefaction with sedatives is no better therapeusis in nervous cases than in surgical. The difference between them is that surgical pathology is understood by many men, while neuropathology, and above all psychopathology, is hardly even sensed save by a few.

A few examples of changed practice will make clear the kind of point of view so much required in current practice in order to save the numerous nervous wrecks resulting from the exceedingly bad therapeusis so common now.

Suggestive therapeutics, which is so much vaunted by some, I consider a **grave neurological error.** Psychotherapy should be a constructive growth built on analysis and not a mere imposing of behavior upon the patient willy nilly, through a side tracking of his attention by electricity, hypnosis, joint manipulation or religion. Two instances follow where the inefficiency of such procedure is shown:

Case 1. A prominent real estate man in one of the larger southern cities was attacked recently by the condition which precedes and leads to arterio sclerosis. A specialist ordered certain exercises and a dietary. But the real estate man adopted Christian Science, born of suggestive therapy. He believed himself to be cured, obsessed with the idea that "all is God; God is good; all is good." So his natural business caution was replaced by an unreasoning and happy-go-lucky optimism. Result, ruin and suicide in four months.

Another serious **neurological error** is the sending of a patient to a **sanitarium** for nervous diseases without knowing the class of treatment to be given. A proper diagnosis should first be made, for this will often obviate any such procedure as sending the patient to an institution and the stigma it involves. Besides it is the man behind the gun who counts after all.

Case 2. **Suicide prevented.** Longing to put an end to his life, having tried to drown himself and having taken laudanum, a farmer's son, aged 24, was sent to a sanitarium. Toward the end of his stay of seven weeks he crushed and swallowed an electric light globe. So he was removed and immediately drank laudanum again. He was then brought to Dr. Hooe in Washington, who placed him in a general hospital and called a neurologist, who at once began to analyse the why of the lad's impulse to kill himself. Less than two hours sufficed to ascertain the cause, which was, in short, that he felt dispirited and hence ill all the time because of nagging of the family and others. Too shy to assert himself, he had for a year sunk into solitary dullness, which made him a laughing stock. The result was that the least correction or even suggestion about farm work would be taken as an insult. On one occasion, for example, a neighbor farmer, who wished him to plant the corn differently, was believed by his mother, though the patient knew the neighbor was

quite wrong, and he felt all the time he was disregarded or put upon unjustly. His own sheepish attitude, of course, encouraged others to treat him in this way. He once left home to escape from this and worked in California, but did not make a success.

Stated shortly, the state of this attitude towards the surroundings was his own shame at his erotic fancies and masturbation, which he feared would injure his mind, as other boys teased him about it. The result was he became ultra-scrupulous and intolerant of other boys, which lead to the solitariness which aggravated his tendencies. He believed now that something was wrong with his brain, but he felt that if he could be cured he would be contented to live.

On this basis a full explanation was made of the harmlessness of his onanism and the mechanism of his difficulties was explained and means for their overcoming were outlined. As a result he went home within two weeks and is now working cheerfully on his mother's farm and actually going into society, his family having been instructed how to help him instead of harming him as they had formerly done.

1705 N Street.

THE COUNTY MEDICAL SOCIETY.

G. W. Swimley, M.D.,
Bunker Hill, W. Va.

(Address to Eastern Panhandle Med. Society).

The reading of the minutes of the society show that your humble servant has been made its presiding officer for the ensuing year, not by his consent, but the majority is said to rule, hence he yields and agrees to stay in the harness, appreciating the honor conferred.

Early in the year 1906 a few of the physicians of Martinsburg, being assembled to spend an evening socially, incidentally began to talk about forming a medical society for the county of Berkeley. The idea began to grow, and on the 10th of May, 1906, at the instance of Dr. Golden, Secretary of the State Medical Society of West Virginia, a number of physicians of Martinsburg and Berkeley county assembled at Fireman's Hall and organized the Berkeley County Medical Society. Dr. J. McKee Sites was elected President; Dr. Henshaw, Vice President; Dr. Sperow, Secretary, and Dr. Baker, Treasurer, thirteen members being present.

The society struggled along with only a few members, who took but little interest in the society's welfare, yet it was kept alive and did some work during its seven months' existence.

On December 27, 1906, a convention of the practicing physicians of Berkeley, Morgan and Jefferson counties was held in Martinsburg, and on motion of Dr. Neill the Eastern Panhandle Medical Society was organized. Dr. Henshaw was chairman pro tem; Dr. Miller, Secretary. The following officers were elected: President, Dr. Sites, by acclamation; First Vice President, Dr. Truff of Morgan county; Second Vice President, Dr. Venning; Dr. R. W. Miller, Secretary, and Dr. F. M. Phillips, Treasurer.

Those present were: Drs. Grubb, Castleman, Henshaw, Marshall, Neill, West, Fry, Phillips, Venning, Oates, LeFever, Sites, Miller and Andrews. Among the names of the physicians appearing above we sadly note that Drs. Castleman, West, Andrews and Baker have passed over to receive their reward.

The above is a brief outline of the origin and organization of this society. Eight years ago it began work with a membership of fourteen. During that time the society has held meetings in Berkeley Springs, Morgan county, Hancock, Md., Martinsburg, Berkeley county, Harpers Ferry and Charles Town, Jefferson county, and also, when the fruits are ripe and the summer shade can be appreciated, the society often enjoys the genial hospitality of our esteemed friend, Dr. Howard Osborn, at his palatial residence at Ripon. May the sunshine and the blessings of heaven continue to fall upon him and his household is the wish of all who have partaken of the good things at his festal board.

The society, with a full paid-up membership of forty-six, stands second to none in the State, and it should be the endeavor of each and every member to keep it up to the present prosperous condition, adding to its membership and placing it upon a higher plane of usefulness.

If the members become alive to the work much good can be accomplished and

the general satisfaction will flow out to the enjoyment of all.

Please allow a few suggestions. Many of you may be asked or called upon to contribute to the exercises of these meetings. Now, should any of you be invited, try not to form an excuse something like this:

I can't write a paper; I can't talk in public; don't call on me; I'm too busy; get somebody else.

Pity the physician who is always too busy to enjoy some of the social functions of his society. He is getting very little enjoyment out of this life; he is a slave to his profession. If you cannot take any part in the program give us your presence —it will be a help to others and make the meeting more pleasant to all.

To all those who will give us their hearty support will be given an opportunity to express their views, but don't let any say that a few of the members want to do all the talking. There is an opportunity for you if you will take it. If some windy fellow has the floor let him run down. He is only wound up for a few minutes; his sand will soon run out; then get the floor and claim it and you will be recognized. If you don't get it at first, try again. It may be you will have to try the third time, but that generally succeeds. Such effort will show that you are in earnest, and you will thereby get warmed up and have no difficulty in saying what you want to say. Try it a few times and be convinced.

Please allow another word about that windy fellow—no personal reference. You are all aware that he is an important factor in every society. He talks, not always because he wants to, but because he feels that it is necessary for some one to say something to ward off the approaching lethargy. He does much planning and cranking; soon the sparks begin to show and the machinery of the society moves off without any apparent friction.

It is impossible for the full membershio to be at every meeting, hence the absentees are often excusable. They cannot leave their work to enjoy the occasion. Others may not have a desire to be there, but prefer to follow the inclinations of their own hearts—which is said to be "deceitful above all things."

If you wish to avoid the necessity of giving any of the excuses mentioned above, it can be done by adhering to the following suggestion, which runs something like this (which please remember): Let every member be a committee of one to work for the good of the society; select for yourself some familiar subject, read it up carefully, then commit your thoughts to paper; read more on the same subject, rewrite it and get in some new ideas. Continue this exercise for a few weeks, and you will be surprised then to know how much you have accomplished. Ah, but you say, you haven't the time. Did you ever count the number of hours that you waste every month? They are like dollars—they slip away and never return. If you cannot get your thoughts on paper, give them to us orally. They will be accepted. Some unusual case of yours—it may be interesting and profitable to the family.

After a society has selected its presiding officers for the next year following it then often becomes forgetful of its existence, assuring itself that those who are then to preside will exercise a fostering care over its future welfare. It is very natural that some of its members become somewhat thoughtless concerning its existence, but, in order to carry on the work of the society successfully, the co-operation of the members is necessary.

Only those who have assumed the responsibility of managing and conducting the society through the current term of office know the anxiety often felt about having the future program ready on time. Out of a dozen who have been solicited to take some part in the exercises of today came regrets and excuses until—yes, until we have only those whose names are shown on the program card.

The following proposition always holds good: The enjoyment received from any society is in proportion to the interest manifested by the members of the said society. When a member says that he enjoys the social functions of his society, you are assured of the fact that he is a working unit; but if his expression should be in the negative there is evidently a lack of interest.

The same is true in everything. A practical demonstration of the above proposition will soon be given by the members present. Please casually notice that when

dinner is announced there will then be shown an unusual interest in the anticipated proceedings. None will be bashful —no, not even one. Who ever heard of a doctor being bashful on such occasions? Each member will get all the good possible from the exercises; then he will retire, feeling that he has had an unusually good time, which feeling has resulted from his taking a very, very active part in the program.

BOWEL MOVEMENTS AFTER ABDOMINAL SECTION.

Irvin Hardy, M.D., Morgantown, W. Va.

The after treatment in many cases of abdominal operations is fully as important as the operation itself. In some cases vastly more important, for instance, in purulent peritonitis, etc. The importance of early bowel movements seems to have been over-estimated. In clean appendectomy cases and other cases of like nature where you see little danger of adhesions there is no good reason for worry if the bowels do not move for three or four days. Where there is much inflammation of the peritoneum one feels better by restricting the use of morphine and by having the bowel emptied comparatively early. In a number of the latter cases we have poured sterile olive oil into the peritoneal cavity, with apparently very good results. This plan has been carried out in drainage cases and non-drainage cases as well, the object being to coat the coils of intestine with an oily film until the active inflammation of the serous membrane has subsided. This will be more effectual if at the same time Murphy's saline solution is being employed, in which case the oil will not be absorbed so rapidly. Surgeons are now well convinced that the avoidance of active purgation previous to the operation contributes to the welfare and comfort of the patient after operation. It has been our custom following operation to give as a purgative blue mass and magnesia in combination or one-tenth grain doses of calomel hourly for ten doses, following the last dose with a small dose of castor oil. The ordinary soap suds enema is used if needed. If this does not bring the desired result glycerine (four ounces) is added to the next soap suds enema. This failing to induce a bowel movement, it is followed in three hours by the old familiar molasses enema, and at the same time a hypodermic of pituitrin is given. We have used pituitrin in about one hundred cases and have found it effectual in more than fifty per cent of the cases. In a number of cases in which there was no bowel movement from its use there was free passage of flatus. In all cases in which this product was used the patients expressed themselves as feeling more comfortable after its administration. We have used eserin for this same purpose in perhaps two hundred cases, and while it is more certain in its action, it has the disadvantage of causing unpleasant if not dangerous symptoms in certain individuals. In two of our cases it looked for a time as though life would be lost through the effect of the drug upon the heart. Pulse became very irregular, weak, of poor quality, with great restlessness and a feeling of discomfort generally. This condition lasted several hours but both patients recovered. It cannot be said to be a perfectly safe drug. We are now mixing half the usual dose of eserin with the usual dose of pituitrin, but so far have not used this combination on enough cases to make a report of any value. It may be that if one could gauge the correct dosage of pituitrin in each case that results would be more uniform. Being a comparatively new preparation, sufficient opportunity has not been afforded us for detailed study. It is not the object of this paper to give detail in management of post-operative cases, but merely a word or two of fact and experience under the above title.

MEDICAL TEMPERANCE.

Estalee M. Chalfant, M.D.,
Shinnston, W. Va.

We agree with the author of the following given in the February number of this journal "that a great deal can be done by the publication of facts as to the physiological effects of alcohol in the way of inducing educated and intelligent people to conserve their own health by limiting the use of alcohol or giving it up altogether."

It is necessary to educate the people in the teachings of non-alcoholic physicians.

They should know that it is harmful to dose themselves with whiskey and patent medicine.

Dr. J. J. Ridge of the London Temperance Hospital said: "In abandoning the use of alcohol it should be clearly understood that we abandon an injurious influence and escape from a source of disease, as we do when we get into a purer atmosphere."

Dr. Nathan S. Davis, founder of the American Medical Association, said: "If I am asked why the profession continues to prescribe alcoholic drinks I answer simply from the force of habit and traditional education, coupled with a reluctance to risk the experiment of omitting them while the general popular notions sanction their use. When patients are getting weak, in the advanced stage of fever or some other self-limited disease, an abundance of nourishment is regularly administered, in the greater part of which is mixed some kind of alcoholic drink, and if, after a severe run, the fever or disease finally disappears, it will be said that the patient was sustained or 'kept alive' solely by the stimulants, when, if the same nourishment and care had been given without a drop of alcohol, they would have convalesced sooner and more perfectly, as I have seen demonstrated a thousand times in my experience."

At the sixth International Congress on Physiotherapy held in Germany Prof. Ewald of Berlin spoke on "Alcohol and Infectious Diseases." He said: "The opinion has now been reached that alcohol does not play the role in therapeutics, escially of infectious diseases, that was formerly ascribed to it. The injury caused by the alcohol to the infection does not compensate for the harm resulting from the unfavorable influences on the natural protective power of the organism, the blood pressure and the respiration. The stimulating action of alcohol on the heart is of short duration and followed by a marked decline. It was believed formerly that treatment by alcohol was indicated in pneumonia, rheumatism, scarlet fever, measles and diphtheria. But at present the opinion prevails that treatment with alcohol is injurious."

Sir Thomas Barlow, M.D., said: "It is the duty of physicians to practice and to teach total abstinence."

Dr. Wm. F. Waugh of Chicago, editor of the Alkaloidal Clinic, said: "Alcohol is used as a stimulant in fevers. We have shown that it does not sustain either the heart or the respiration, and that it is not to be depended on for this purpose." The effect of strychnine is unquestionably stimulating and its action is more powerful and prolonged than that of alcohol, even admitting the claims of its friends as to its efficacy. Digitalis and strychnine give effects that are not disputed and with these agents at our command, in reliable, convenient shape, we can have no need for alcohol.

Howard S. Anders, M.D., professor of physical diagnosis, Medico-Chirurgical College, Philadelphia, said: "I believe strongly that in pneumonia, typhoid fever and tuberculosis the indiscriminate use of alcohol in the past has caused an incalculable amount of distress and needless disaster."

Abstract.

THE DIAGNOSIS OF TUBERCULOSIS OF THE KIDNEY.

(Abstract of Paper by Drs. F. E. Keene and J. L. Laird in American Journal Medical Sciences, Sept. 13, 1913).

The tubercle bacillus is carried to the kidney by the blood. In 90 per cent of the cases the disease is primarily unilateral. It is progressive in its course. The only cure lies in early diagnosis and removal of the affected kidney.

In the early stages of the disease two important signs are often disregarded. They are frequency of urination, without pain at first, but followed later by dysuria. When these symptoms do not yield to treatment rapidly not only tuberculosis, but another organic change in the genito-urinary tract must be thought of. The terms "nervous bladder" and "irritable bladder" are makeshift diagnoses that have no origin in fact.

There are no other early symptoms. There may be pain and tenderness over the kidney. A slight evening rise of temperature is common. The health is good at first, but soon there is weakness and some loss of weight.

An absolute diagnosis can be made by

urinary examination, by cystoscopic examination or both.

Urine.—The urine is increased in amount, the specific gravity is lowered and it contains usually a small but variable amount of pus. The pus is increased when a new cavity opens into the pelvis of the kidney. It may be absent when no cavities communicate with the pelvis. This intermittency in the amount of pus in the urine is characteristic. The tubercle bacillus can usually be found at this stage in spreads of the pus. For absolute certainty of their identity some of the pus should be injected into a guinea pig. By the Bloch method it is now possible to determine the presence of tubercle bacilli in an exudate or pus within 10 days.

The cystoscope now becomes absolutely necessary. By it can be determined the extent of involvement of the bladder and ureter; by catheterization the urine of each kidney can be collected; the integrity of the other kidney can be established. By the simultaneous use of one of the functional kidney tests can be ascertained the secretive power of both the healthy and diseased kidney.

No one of these means can be used to the exclusion of the others. Each case must be studied carefully. It is not good practice to look upon bladder symptoms as functional until some organic change anywhere in the genito-urinary tract has been excluded.

S. L. CHERRY.

Selections.

RADIUM IN SCRGERY.

Howard A. Kelly, M.D., Baltimore, Md.

It is a curious fact that the revolutionary importance of radium, the creator of a new science, destined to transform physics as well as chemistry, should for a time be almost overshadowed by another enormously important practical discovery, namely, that of its utility in alleviating or in curing various refractory diseases. The discovery of the therapeutic possibilities of radium lies at the door of the French and was apparently the result of an accident to M. Becquerel, who carried a few milligrams of the element in his vest pocket for some hours and later noted a superficial burn of the skin. Verbum sapienti sat! . A tentative use was at once made by Dr. Danlos, a skin specialist, and through this small door accidentally opened admission was secured to an arena which we are today only beginning to explore. Other French pioneers, notably Wickman, Degris, Dominici, Cheron and Barcat, took up the new agent with characteristic national enthusiasm and developed its therapeutic resources almost to their present limits. These path-finders were soon followed by a notable German school, which on account of the difficulties of obtaining radium in any considerable quantities began to experiment with Hahn's mesothorium and found it equally active and fortunately, for a time at least, about one-third the price. Today a number of German clinics have at their disposal some hundreds of milligrams of mesothorium. Prominent among these clinicians are the names of Doderlein, Kronig, Bumm, Lazarus, Gudzent, Saubermann, etc. One must also not forget to mention the work of Dr. Pinch at the London Radium Institute, which has a large amount of radium in constant use. In America our pioneer investigator is Dr. Robert Abbe of New York.

The use of radium in medicine, although it has gone far in a single decade, is still terra nova et incognita on whose borders we stand as we stood in relation to the use of our X-ray apparatus some fifteen years ago. The largest fields of utility for our new radium-therapy lie in the domain of cancers of all kinds (including the sarcomata), and vascular tumors and other abnormal growths on the surface of the body, including some of the internal cancers such as those of the mouth and of the larynx and of the womb and the rectum. Its value in general medical troubles, such as gout and rheumatism and a variety of blood diseases, is being explored diligently, but it is not yet time to forecast the results.

My own experience with radium, in association with Drs. Curtis F. Burnam and Robert M. Lewis, is based on several hundred cases, including cancers in all parts of the body, of the face, the mouth, the throat, the larynx, the neck, the chest, and the lower part of the abdomen. We find that skin cancers, particularly those seen

in the earlier stages, when they have not deeply invaded the tissues and have not yet produced metastases in remoter parts of the body, are remarkably uniform in their behavior, recovering rapidly often under a single thorough application. In these personal experiences we are in full accord with those of our French confreres.

Cancers of the mouth and mucous membranes generally are not so readily amenable to treatment, but we have seen some of these, especially when affecting the lips, heal up under a single large application, using several hundred milligrams at a time, for several hours. In cancer of the neck of the womb, where the disease is apt to spread so rapidly and where our surgery is so often baffled, radium is of value in several ways. In three patients where the disease had manifestly gone beyond the stage, the uterus was taken out and radium was used. In each of these three there has been no recurrence, and health and comfort have been fully restored, although one is over two years, another about two years old and the third was done last spring.

I have also treated a number of patients who have been operated upon in other cities and whose surgeons have sent them to see if radium would eliminate a recurrence of the growth at the seat of the operation; these one and all could not have been operated upon again with the slightest hope of permanent relief. In each case where the ulceration and the fungating processes were confined apparently to the vaginal vault and not extending laterally there has been a complete recovery; several have recovered where there was an extension.

I have also had a small group of cases where no operation for the cancerous uterus could be done on account of the general condition of the patient who had some other serious ailment, such as Bright's disease or diabetes. Several of these, too, have apparently been cured. Even where we could not wipe out all of the disease, there has been a marked improvement in relief from pain, in the cessation of bleeding and other distressing discharges and an improvement in the general condition of the patient, as well as relief from despondency and gain in appetite and weight.

I have seen several cases of cancer of the rectum, one treated over a year and a half now, apparently cured without any operation. In one case, a man about eighty-two years old, the cancer of the rectum was cured, but he had metastases in his liver which continued to grow until he succumbed. In breast cases it has often been possible to get rid of the nodular skin recurrences in a remarkable manner, and we have two cases which appear to have been completely cured—one of two years' standing and one of three months'. In the first there were large lumpy recurrences in the skin and on the chest wall. In a remarkable big lympho-sarcoma under the jaw, the size of a small fist and utterly inoperable, the disease began to disappear at once under the radium; in three days a great difference was evident, and in ten days it was gone. Radium treatment here appears to act almost as a specific.

Again, cancer of the larynx is favorably affected and in some cases cured. In an extraordinary lympho-sarcoma pushing well up into the left side of the neck the mass at the neck disappeared entirely and the chest was almost restored to its normal appearance, as shown by X-ray photographs taken.

I am careful always to say that they "apparently" recovered, as sufficient time has not elapsed to enable one to speak with absolute certainty and all such patients ought to be kept under observation for several years. I believe, however, that with few exceptions, these recoveries will be permanent, judging from my own experience and that of many others.

Radium, however, does not to any large extent replace surgery, but comes as a valuable adjutant to extend its field by making a group of inoperable growths operable, or by making it possible to take out a large part of the mass and to treat the residium with radium. The happiest use of radium is in the new growths about the face where it often heals without loss of tissue or deformity, "saving the face" of the patient literally.

Radium is likewise valuable and quite certain to cure without operation those hemorrhagic uteri which are dependent upon vascular and muscular changes and not associated with cancer.

The application is made over 24 hours. Two or three treatments at intervals from

one to several months check or entirely do away with the menstrual flow. The operation of radium in this case seems to be not in the uterus, but in the ovaries themselves. Radium here comes into competition with the hard Beta X-rays.

It is of use in inflammatory troubles, acting upon the tissues and not upon the organisms. This field is being worked out. It is an invaluable agent in pruritus of the vulva and of the anus. It checks the growth of fibroid tumors as well as the hemorrhage, but its greatest value is in the smaller tumors which have not risen out of the pelvis. It is used at the vaginal vault or by dilating the cervix and introducing say 100 mgr. into the wound.

In general radium is applicable under the following conditions:

(1) To cure cancer outright without surgical intervention. This has been done in many instances where the disease has been pronounced hopeless.

(2) To irradiate the tissues before an operation in order to render recurrence less liable.

(3) The radium is placed in the field of the operation at its conclusion either to destroy any manifestly diseased areas which the surgeon has been forced by the necessities of the case to leave behind, or again when it is because of the general fact that there is a definite percentage of recurrences even in the favorable cases. Without any doubt radium will greatly reduce this number by destroying the microscopic invisible elements left behind.

(4) Operating deliberately through cancerous tissues with extensive infiltration and then applying radium afterwards. One often sees after this a remarkable change in the tissues, which become leathery or brawny and the discharges cease, with hemorrhage and pain. The disease may, however, in such cases continue to progress slowly to the end. As yet we cannot handle massive recurrences and neglected cases, but we can handle comfortably early cases and many of those which from position or extent are inoperable.

In conclusion, let me say that the field of utility for radium is just opening up and we are living in the dawning of a new era. It will undoubtedly produce a number of specialists who will devote themselves to the difficult handling of this new and powerful agent. With experience and skill will come more refined methods and their extension over a wider field.—Southern California Practitioner.

TYPHOID CARRIERS.

Some individuals who have had typhoid fever may act, for an indefinite period, as chronic carriers of the infection, excreting the bacilli of Eberth in the stool or urine, and sometimes apparently harboring them in the gall bladder. Such individuals are a menace to the people among whom they live, especially as their discharges may be 10,000 times more infectious than crude sewage, volume for volume. Some authorities hold that three or four out of every 1,000 persons in a population are in this condition. In his last research report Dr. A. C. Houston, director of water examination to the Metropolitan Water Board of London, Eng., mentions that the first carrier case, whose urine he had an opportunity of examining, contained as many as 9,900,000 typhoid bacilli per cubic centimetre, but from the feces of this patient no typhoid bacilli could be demonstrated. As far as infectious disease is concerned, the real enemy of mankind is man, and if the immediate cause of what are recognized as "water epidemics" could be precisely ascertained Dr. Houston believes that, in most cases, it would be found that accidental infection of the supply by what is known as a "porter" or "carrier" of the disease had occurred. This seems to be an extreme view; for typhoid infection may occur in a less direct fashion than by the transmission of the Eberth microbes from the bowels or bladder of the "carrier" to the consumer, via a polluted well. For instance, the late Dr. E. Griffin, when M. H. O. of Brantford, Ont., reported, in 1893, that five cases of typhoid fever had occurred in a family in which one case of the same disease had occurred in 1892. The infection was as follows: "The dejecta were buried in the ground, about 35 feet distant from the driven well. The soil thus contaminated was the filter through which subsequent rainfalls would pass to supply that well, and probably other neighboring wells." These Brantford cases can scarcely be thought to have been of accidental origin; in fact, the evidence of design in their

evolution is rather complete. Dr. Houston thinks that whenever an explosive, undisputed epidemic of typhoid fever occurs such agencies as milk and perhaps shellfish having been satisfactorily excluded, the cause is to be found in the water supply; and, in such cases, it is his opinion that something in the nature of an accident had occurred. By way of illustrating what is meant by an accident he says: "For example, if a workman engaged in the filtration works was a typhoid 'carrier' and his discharges, through negligence or impropriety, gained access to the water, that would be in the nature of an accidental circumstance, not inherently connected with the source of supply or its mode of purification."

As London water is stored for five days, and is afterwards filtered through slow sand filters before it is pumped into the mains, Dr. Houston considers that the consumers are adequately protected against typhoid fever, apart from such an accident as he describes. He also thinks that the devitalization of typhoid bacilli under these conditions is such that the consumer could never, even with the worst of ill-luck, receive in one draught an infective dose of typhoid fever, unless on the assumption that one solitary bacillus can start the infectious process. In his opinion the home of the typhoid bacillus is not so much in impure water, or even in the crude sewage from large cities, as in the "factories" of typhoid fever, as exemplified by the "carrier" case. It follows, therefore, that the discharges of a "carrier" are very infectious if deposited in an ordinary privy, which may leak into the well used by the people living on the farm or in a village. Such has been our experience in Canada, where the origin of typhoid outbreaks has been traced to such a pollution. The arrival of a person of unknown health history, a typhoid "carrier," recently discharged from a hospital, has proven sufficient to change the character of an irreproachable well in a farm, village or town and render it infective to many people. On the contrary, should the "carrier" take up his residence in a sewered town, provided with water-closets, his discharges, particularly the urine, are so reduced by dilution that they do not prove infective to the consumers of a filtered water supply, even though the town sewage may discharge into the source of the water supply. One practical conclusion from Dr. Houston's studies would be that greater care should be exercised by the medical authorities of hospitals or by private practitioners before typhoid patients are restored to civil life, especially if the patients will reside in unsewered municipalities, where the water supply is derived from wells. In towns not having wells, but having an unfiltered water supply, it might be urged that the Eberth microbes are not only unequally distributed through the potable water, but may be aggregated together in masses, and that, therefore, whilst the majority of the consumers escape infection, some of the remainder might receive a super-dose (spotted distribution). Against this must be set the fact that Dr. Houston has only twice been able to isolate the typhoid bacillus from raw river water (29,470 cultures made from 257 samples), and, on these two occasions, only one such bacillus was found in each sample.

Unlimited dilution is therefore of great utility in reducing the infectivity of a raw water supply; but the sedimentation of stored water in reservoirs and the subsequent filtration of the same reduce the danger of "spotted distribution" of typhoid fever to a minimum.—Canadian Journal of Medicine and Surgery.

THE PHYSICIAN AS A BUSINESS MAN.

J. B. Caselle, Clinician to the Cincinnati Polyclinic.

In presenting to you this paper it is not my desire to recommend any radical changes in handling the business end of our profession, but rather to offer suggestions which might be of benefit to my confreres in their future dealings with their clientele.

It has been a matter of wonder to me that while so much could be said regarding the Physician as a Business Man it is seldom if ever that we see anything on this subject in any of the scientific or medical journals which we read and study.

The general impression exists that a physician is a poor business man, and I fear that in most instances this impression is correct. Witness the fact that so many

physicians have lost very considerable amounts in wildcat mining schemes, unsafe stocks and bonds and bad investments of various kinds, not to mention the numerous outstanding bills on their books.

The average physician is so engrossed in his work that his mind is not trained to distinguish a gilt-edged investment from one of a doubtful character, hence he takes for granted that everything the glowing prospectus states about a security is true, and he invests his money—to his regret oftener than to his profit.

Then another point—the non-paying patient is the doctor's "bad debt." Illustrative of the poor method of conducting his business is the fact that every practicing physician has a liberal number of these "bad debts" on his books. When the laity owes the grocer, the butcher, the baker or the gasman their deliveries cease. But what about the doctor? There is really but one excuse for an unpaid doctor bill in any family of even moderate means, and that is actual down-right inability to pay. And it seems to me that it would have to be very stern necessity, making demands upon them elsewhere, to permit any man or woman to acknowledge that such an inability existed in their home.

Granting the existence of these conditions, the remedy would seem for the physician to conduct his business as any other man of affairs does, thus training his mind so that he cannot be easily duped either by poor investments or by poor-paying patients. In the hope that some suggestion may be of assistance to some of you present tonight, I beg to offer the following rules to be pursued in the conduct of the business end of our profession:

1. Keep strict account of all work done.

2. Do your share, or even more than your share of charity, and do it cheerfully, generously.

3. Be gentle and kind at all times. Have a genial smile. Never have a "grouch," never appear tired or ill.

4. A servant is worthy of his hire, therefore never underestimate your services, remembering that at any hour of the day or night you are expected to be on hand when needed, ready, willing, cheerful.

5. Since it is true that the druggist, the grocer, the butcher, the baker, runs his business on the proceeds of the "cash payers," it is fundamentally important that you do a "cash" business as far as possible, especially in your office work. Right here I want to pause long enough to say: If a stranger comes to your office, takes up your time and attention and receives your services, and then has courage to walk away without mentioning your fee, be man enough to demand payment. An honest man will not be offended at your request, a dishonest man will be insulted. But it is better to lose him as a patient while he owes you a small fee than to lose him later owing you a big bill. Also remember it is always easier to collect at each visit than to collect a large bill. "Short accounts make long friendships" is an axiom not to be forgotten.

In the office of a prominent New York attorney I noticed the following motto, hung directly over his desk:

> "Man is made of dust;
> Dust settles;"
> Be a man."

I do not think this motto would be amiss over every physician's desk.

I cannot see why the prevailing idea among the average family of today seems to be that "the doctor can always wait." How much better it would be for all of us if the laity would adopt the following extract from the writings of one of our modern philosophers, as part of their religious creed:

"The man who has a receipted doctor's bill has more chance of salvation than the man who brags that he has read the Bible from Genesis to Revelation."

6. Now we come to the "accounts receivable"—our uncollected bills. Never give your bills to a collector. Experience has taught me that in many cases by so doing, instead of accomplishing our aim, we make enemies of our patients and their relatives and friends. Then, too, I have found that it is sometimes more difficult to collect your money from a collecting agency than from your patients. If you have any bills that you positively cannot collect yourself consider the amount as lost. Charge them to "Profit and Loss." Every business has its "Profit and Loss" accounts.

7. Remember it is part of your business equipment to look well dressed and at least bear outward expression of success.

The foregoing principles constitute mainly what might be designated as the "Assets" of a physician. Now, on the other side of the ledger, we have the "Liabilities." Under the head of "Liabilities" I believe that every physician owes it to the community in which he practices to take an active interest in public and local affairs.

8. Every physician should always pay his own bills promptly

9. Make it an invariable rule never to go any one's security There are bonding companies which, for a nominal charge, will gladly furnish bond for any responsible person, and no reasonable man will ask or expect his friends to make themselves liable for his integrity. And, as for endorsing any one's note, while I wouldn't presume to offer any set of rules to follow, I will say it is always wise to remember that while "no" is a very little word, it is also a potential one. In this age of liberal banking laws, anybody can borrow money from the banks if their note is fortified by proper collateral. If the collateral is lacking you had better think twice before affixing your name to the note of either your very best friend or your most valued patient.

10. It is the duty of every physician to not only acknowledge that he is trying to support himself and family, but to make it distinctly understood that he practices medicine for a living; that his family is dependent upon him, and that he owes it to them to see that they are provided for, not only during his life, but in the event of his sudden death, that they may not be left dependent on charity, or that his widow may not be forced to earn a living, such as taking in boarders, as has often been the case to my own knowledge.

In concluding my paper, I want to bring to your attention the following paragraph (from the February American Medicine), which presents in a clear, concise manner another phase of my subject, namely, the defects of the principles of medical ethics.

"The defect of all codes of medical ethics is that they overlook that medicine is a calling by which we earn a living. Civilization is based on the fact that everyone is doing something to benefit others while he is supporting himself. It is nonsense to claim that any one of the lawful callings is primarily for the good of the public. Like every other bargain, it is beneficial to both sides, and they all survive because of this mutual benefit. Shoemaking would disappear if shoes were no longer beneficial, and the trade arose because of its necessity. All men cannot make their own shoes or medicines and must pay some one else to do both for them.

"Our old claim that the profession of healing is the only purely altruistic one in which the selfish consideration of making a living does not appear except as an incident is simply untrue. The physician who does not insist on his fees for keeping patients healthy is as foolish as a shoemaker who will give away shoes for the pleasure of keeping people well shod. Our profession is not, then, 'primarily for the good of the public' to any greater extent than any other trade or profession, and it is high time we throw off the smug hypocrisy which only creates ridicule. Medicine is a mutual affair and cannot exist in a pure, healthy state unless it is beneficial to both doctor and patient—neither good being the primary one. Pure altruism is as harmful as pure egoism, and we must not pretend to be what we cannot. There is no question that we have suffered dreadfully by our false position. Millions of people take us at our word and see no wrong in their failure to pay the doctor, even if they know his children are suffering for the comforts of life, if not its necessities. They really think it is his duty to heal them without pay. Our unwise attitude even creates a sort of pauperism as seen in the abuse of dispensaries by people clothed in expensive furs. In this respect our code is far from ideal. It must be modified so that violation of this provision is more difficult than observance; that is, it must be a practical guide, not an unattainable ideal. Except in emergencies, like the recent flood disaster, to which all men respond, whether they are doctors or not, let it be understood that the doctor must be paid for his work, and for all of it. When the code says this it will be more respected and less often violated. Let it distinctly state that a man is no more entitled to free medical care

than he is to free shoes. If there is any primary purpose of practicing medicine it is the purpose of making a living.

As a final thought, let me remind you that the late Pierpont Morgan always recognized the soundness of the economic principle that no business succeeds which is conducted solely or chiefly in accordance with altruistic principles.

To succeed business must, in the long run, earn profits.—Medical Brief.

ARTHRITIS DEFORMANS.

Clarence Edward Skinner, in the *American Journal of the Medical Sciences* for November, considers the treatment of arthritis deformans, believing that whatever theory as to its causation be accepted, the therapeutic indications are essentially the same: These are: (1) to close possible avenues of infection, such as local suppurative, ulcerative and catarrhal processes, carious teeth, etc. (2) To improve the general and local nutritional processes, whereby the physiological resistance of the various tissues and the efficiency of the vital activities in general will be augmented. (3) To accelerate the elimination of katabolic products and toxins which depress the vital activities. (4) To limit the formation of autotoxins. The treatment of the disease, then, resolves itself into applying those measures which will satisfy the above mentioned indications in the most effective manner, the relief of pain, and the management of the affected joints. He considers the use of dry hot air, electricity, hydrotherapy, etc., and believes that drug medication is unsatisfactory as regards the securing of curative results. No substance has yet been discovered which exhibits a specific curative action as far as the disease, per se, is concerned, but there are a few medicines which appear in some cases at least to exhibit considerable influence over the condition. The iodid of iron has given him the best results. It should be given for periods of six weeks, with an intermission of two or three weeks. Cod-liver oil does good service in cases characterized by emaciation, if well borne by the stomach. Arsenic and strychnin are fairly useful in many instances as general tonics. Chlorid of gold and sodium and sodium or potassium iodid, or hydriodic acid sometimes seem to render considerable service, but they fail to influence the disease in such a large proportion of cases that their importance is not nearly so great as is generally supposed. The beneficial influence which thyroid extract exhibits in some cases of this disease is particularly interesting, because of the possibility that aberrant function of ductless glands may be concerned, to some extent at least, in its etiology. He has given it to a few patients and feels that they have derived considerable benefit therefrom, and the remarkable results which have followed its administration in some cases demand that it be thoroughly investigated. The relation of the salicylates to this disease deserves special mention, as they sometimes render excellent service in relieving pain and swelling, although it is improbable that rheumatism is an etiological factor in any great number of cases; whatever the explanation, the fact remains that the salicyl compounds are sometimes very helpful in relieving painful joint condition present.—*Cleveland Medical Journal.*

TYPHOID APPENDICITIS.

Dr. Grant, in *Colorado Medicine,* thus gives the views of Howard Kelly, as given in his book on appendicitis:

There is no more interesting chapter than that on appendicitis in the course of typhoid fever. The organ is involved in about one-third of all cases of typhoid fever, but usually in a mild catarrhal form. In about five per cent of the typhoid cases there is perforation of the appendix. In the operated cases the typhoid bacillus has generally been found and is believed to be the cause of the mild appendicitis—true typhoid appendicitis—so commonly found; a congestion of the mucosa chiefly. As a matter of diagnostic interest this form of appendicitis is not manifested in the early period of the fever, and when perforation occurs in this condition it is in the latter part of the second, or in the third week. Appendicitis may exist independently and complicate the fever. If so it is more apt to be severe and if perforation occurs it will be early as usual in this disease. At this juncture the symptoms will be the same as perforation of the ileum, and both, promptly require the same remedy. A matter of distinct interest is the unfavorable prognosis from surgical intervention, early and late, in disease of the appendix during the course of typhoid fever. The opinion of other surgeons is in keeping with his own, that under these conditions the operation should not be performed, except in case of perforation. The mortality has been high in all appendectomies in this condition.

The disease may occur as a sequel to the fever and the appendix be affected, the same as Peyer's glands.

In the differential diagnosis the Widal test is too late to be of value. The leucocyte count is low in typhoid fever. The ordinary symptoms and history of appendicitis must chiefly determine the matter.

STIMULANTS SHOCK OF ANESTHESIA.

Dr. O. H. Plant of Galveston, after a careful study of the question and experimentation, concludes as follows:

Of the remedies used in these experiments, the combination of cocaine and strychnine is by far the best stimulant in both ether and chloroform anaesthesia. None of the other remedies gave the same prompt and sure return of respiratory movements together with a marked and lasting improvement in the circulation, and I believe these are the remedies upon which we can place reliance in those cases of anaesthesia where stimulants are indicated.—*Texas Medical Journal.*

In case of intractable "dyspepsia" persistent tenderness in the right iliac region is suggestive of chronic appendicitis as the cause.—American Journal of Surgery.

The West Virginia Medical Journal

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Wheeling, W. Va., May, 1914.

THE JOURNAL issued on the first of each month..

Subscription, - - - - - - $1.00 per year
Single Copies, - - - - - - - 15 cents

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Editorial

THE FORTY-SEVENTH ANNUAL SESSION.

The coming meeting of the State Medical Association at Bluefield gives promise of being a most interesting one. Who has not heard of Bluefield? We remember that, many years ago, the late Dr. D. Mayer of Charleston, a former Secretary and President of our Association, suggested that we hold a meeting in Bluefield. Everyone gave a broad smile. That shrewd business man, even in that early day, saw that this city away down near the Virginia border was "a comer," and now that Mayer's vision has been realized and this most interesting city has arrived, who of us does not want to behold her in all her glory!

And the trip to and from this interesting city will be worth while. The mountains and valleys of this wonderful state will be seen in all the beauty and freshness of the early Spring. All will be stimulated by the beautiful and grand scenery, which will be to most of us a new experience. We need not go abroad to behold nature in all her glory. West Virginia has enough to satisfy the demands of the most exacting, and much of it is on the way to Bluefield.

And then the program. This, after all, is the big attraction. All busy practitioners are entitled to an annual rest from their onerous and trying duties, and this meeting will afford such rest and recreation, and at the same time present an opportunity of absorbing new information from hearing the many papers and discussions to be heard at this meeting. The Secretary has labored hard to induce the members to perform the important duty of preparing papers for this annual occasion, and his labors have been well rewarded. The names of a number of new men appear on the program, with a few of the older ones from whom the Association is always glad to hear. A number of distinguished visitors will also honor us with their presence and present papers. We all like to see those of whom we have heard much. To come into personal contact with them, to hear them talk, to look them over, enables us to put on them a proper estimate, and occasionally it turns out that they are made of common clay and molded very much like ourselves. We have often noted, after coming into close communication with the "distinguished" men of the profession, how very little difference there really is between those men and the less known members of the profession. So let no member of our profession in West Virginia be unduly sensitive or abashed at the names of Gardner, and Gerster, and, Pope, and Babcock, and Beebe, and Gant. Some of these we know, the others we want to meet because they have made themselves known to us through the good work they have done. We shall give all a cordial welcome and try to profit by their presence.

Among the interesting things prepared for our entertainment is a mental hygiene exhibit. Dr. Charles R. Barlow, Superintendent of the Second Hospital for the Insane, who has already shown a very progressive spirit in his work, is arranging to make this exhibit at the coming meeting. On Tuesday evening he will give a talk and exhibit very many lantern slides in illustration.

The mental hygiene exhibit was prepared by the National Committee for Mental Hygiene for the purpose of directing attention to some of the practical applications of the study of human activities and of mental diseases and defects and to problems of preventive medicine, economics and education.

The exhibit consists of a large number of charts, maps and models, illustrating in a plain and instructive manner the subject of mental hygiene. This will be the largest and most complete exhibit ever placed before our Association, and each member should avail himself of the opportunity of examining it.

Arrangements are being perfected for an open meeting on Tuesday night, May 12th, at which there will be shown about 100 interesting and instructive stereopticon slides, covering the history, care and treatment of the insane and the prevention of insanity. The preparation of these was also the work of the National Committee for Mental Hygiene. To the medical man or layman this exhibition affords a very pleasant as well as beneficial way of spending an evening.

We commend this enterprise to our members who should show their interest and appreciation by turning out in force. Come early and stay late. S. L. J.

THE STATE MEDICAL ASSOCIATION.

The Association can boast a larger membership today than ever before. The membership reaches about nine hundred and ten. From an advanced copy of the Secretary's report we abstract these items, which may be of interest to our readers:

"The following societies have during the past year lost in membership: Barbour-Randolph-Tucker, 1; Grant-Hampshire-Hardy-Mineral, 1; Greenbrier Valley, 3; Lewis, 1; Monongalia, 5; Nicholas-Webster, 12; Preston, 7; Ritchie, 1; Summers, 2; Taylor, 1; Tyler, 2; Upshur, 1. The following gained: Braxton, 2; Cabell, 14; Eastern Panhandle, 12; Harrison, 3; Hancock, 2; Kanawha, 15; Logan, 6; Little Kanawha and Ohio Valley, 3; Marion, 6; Mercer, 10; Marshall, 5; McDowell, 5; Mingo, 4; Ohio, 1; Pleasants, 1. The following neither gained or lost: Boone, Brooke, Doddridge, Fayette and Raleigh.

What is the matter with Nicholas-Webster? They evidently need a missionary in that territory.

HOW TO REACH BLUEFIELD.

The Secretary has told us this, but we have a letter from J. G. Miller, traveling freight agent at Princeton, saying that a train will connect at Charleston with the Wheeling sleeper reaching that city at 7:30 A. M. All who expect to go this way should inform Mr. Miller, in order that suitable arrangements may be made for the transportation either by cars from Matoaka, the point of change, or by autos from Princeton, which Mr. Miller recommends as much the quicker way. This auto trip is twelve miles long at a cost of $1.25. Most of the members from our own Panhandle will perhaps prefer to go via Parkersburg and Kenova.

TO ADVERTISERS.

The following quotation from a letter recently received would be interesting to all who think of advertising in the Journal: "Enclosed please find check for advertising in the Journal. I am sure you will be glad to learn that our ad in the Journal has paid for itself over and over again." Read the above and send your copy for advertisement before the 25th of the month.

PATHOLOGICAL WORK.

There are several laboratories in the state doing good work of the above character. Perhaps the first of these to be established is that of Dr. Rose of Parkersburg. Dr. J. T. Thornton of Wheeling does this kind of work in connection with the Ohio Valley General Hospital. Our State Hygienic Laboratory at Morgantown is well equipped for laboratory work of all kinds. At St. Mary's Hospital, Clarksburg, Dr. S. L. Cherry, a most competent man, is in charge of the laboratory and has done a large amount of valuable work for the physicians in the state. From a recent letter of Dr. Cherry's we quote: "We used to be told in school that laboratory work was all right in its place, but to the country doctor it was a faraway dream. The fact is I have done about as much work for the small town men as any other, and these men are not less

progressive than physicians with better facilities." We may congratulate ourselves that West Virginia in medical matters, as in others respects, is among the progressive states.

The Council on Health of the American Medical Association is doing a great work for the public health in many directions. It has recently issued a number of specially prepared pamphlets by very competent men on "The Conservation of Vision." We have seen these and can commend them highly. They can be had at small cost by addressing Dr. F. K. Green, Secretary of the Council, at No. 525 North Dearborn street, Chicago. Five pamphlets on Public Health Work have also been prepared.

A HELPFUL BUREAU.

Editor West Virginia Medical Journal:

DEAR SIR:—The Council on Health and Public Instruction of the American Medical Association has established a medico-legal bureau for the purpose of collecting, arranging and studying all of the available material bearing on medico-legal questions of interest to physicians or relating to public health matters. This bureau is in charge of Mr. John D. Hubbard, a graduate of the Northwestern University School of Law. We desire to secure all available material bearing on medico-legal subjects, especially all pamphlets, bulletins, monographs, circulars, legislative bills, laws, reports or special articles on any medico-legal or public health topics. As rapidly as material can be secured and studied we hope to furnish information to all those interested on any topic coming within the range of the bureau. We shall greatly appreciate it if you will kindly send us, at any time, any such material that may come into your hands. This will be properly classified, cataloged and preserved for use in answering inquiries on any medico-legal question. We hope to make this bureau of service to the officers and members of state associations, executive officers of state boards of health and medical examining boards and any others interested. Any assistance or contributions will be appreciated and of great assistance in carrying out the plans of the bureau.

With cordial thanks for your many courtesies in the past, and hoping that we may, through this bureau, be of some assistance to you in the future, we remain,

Very truly yours,

FREDERICK R. GREEN, *Secretary,*
Council on Health and Public Instruction.

The above should interest every member of our association, who should lend a hand, as opportunity offers, to make the new project a success.—EDITOR.

BOUILLON CUBES NOT CONCENTRATED MEAT ESSENCE.

Home-made Broth More Nutritious and Economical Than the Commercial Meat Extracts.

The belief of many people that bouillon cubes are concentrated meat essence and of high nutritive value has been shattered by a recently issued bulletin of the Department of Agriculture, which says that, while they are valuable stimulants or flavoring agents, they have little or no real food value and are relatively expensive in comparison with home-made broths and soups. This bulletin (No. 27) compares the contents and food value of bouillon cubes with meat extracts and home-made preparations of meat.

The ordinary commercial bouillon cubes, according to this bulletin, consist of from one-half to three-fourths table salt. As they range in price from 10 to 20 cents an ounce, purchasers of these cubes are buying salt at a high price. The cubes do contain a small amount of protein (muscle-building material) in addition to their stimulating properties, and the makers of most of the cubes make no advertised claim that they are concentrated beef broth or essence. However, many housewives believe that they are and that they possess high nutritive value, especially for invalids. This is not the case. The fact that the cubes sell for from 1 to 2 cents each, and each cube makes a cup of broth, misleads the housewife into believing that she is securing meat extract cheaply, when really she is buying it is an expensive form.

Both the bouillon cubes and the meat extracts are stimulants and flavoring agents, but have only a slight food value and are more expensive than home-made soups. While an actual cup of bouillon prepared from a cube costs only one or two cents and the same sized cup of home-made meat broth costs approximately 4 1-3 cents, the former is largely salt and water without the high food value that the latter might have, particularly for children and invalids.

A RECIPE FOR MEAT AND VEGETABLE SOUP.

The bulletin recommends a wholesome meat and vegetable soup which will furnish enough for a family of five at a cost of approximately 16 cents. This may be made according to the following recipe:

One soup bone, weighing about 24 ounces (one-third meat), 10 cents.

After being washed it should be placed in a large kettle with three pints of cold water and heated for three hours, when the bone and meat should be removed.

One-fourth of a small head of cabbage, one onion, one carrot, one large potato, two small tomatoes, a little flour seasoning, 6 cents.

Chop these vegetables and add to the soup. Boil the mixture for one hour, thicken slightly with a little flour and season with salt and pepper.

The home-made soup made according to the above recipe contains in addition to meat extractives gelatin from the bone, some of the food elements in the vegetables and a large proportion of the fat and meat of the bone.

EXPERIMENTAL IMPLANTATION OF THE GENERATIVE GLANDS—SUCCESSFUL IMPLANTATION OF A SUBJECT DEAD TWENTY-FOUR HOURS — IMPLANTATION OF AN OVARY FROM A SUBJECT DEAD TWENTY-THREE HOURS.

Having in mind what has long seemed to me to be the true etiology of dementia precox, the nervous conditions resulting from extensive mutilating operations on the female pelvis, and the possibility of retarding senile changes, prolonging life and increasing efficiency by the administration of the internal secretions of sex-glands in both the male and the female, I have recently made two experiments which seem to me both interesting and of practical value. I have prepared a paper upon the general subject of the therapeutic possibilities of sex-gland implantation, which I will later present to the profession. My reason for presenting experiments which I have made at this time is simply that I wish to immediately establish priority.

Experiment 1. On January 16, 1914, I secured a testis of a suicide, eighteen years of age, dead seventeen hours. Twenty-four hours after the death of the subject I implanted it upon my own right spermatic cord within the scrotal sac, my associate, Dr. Carl Michel, assisting. The technique of the implantation will appear later. On the eighth day thereafter I removed one-half of the implanted gland and found that it had become adherent, as was shown by distinct and firm vascular adhesions. The remainder of the gland had been decorticated prior to implantation and was permitted to remain. This portion of the testis forms at the present time a typically formed movable glandular mass, about the size of a small almond, outlined by palpation. After removal of part of the gland a fistula existed for five weeks, and from this fistula was discharged a mucosanious secretion, in which immature spermatozoids were found. A complete description of the local and general results of the implantation will be contained in my paper, subsequently to be presented. The progress since the implantation and the results have been inspected by Drs. R. D. MacArthur, W. E. Onine, J. B. Murphy, Carl Michel, Charles E. Caldwell, M. M. Portis, Lee A. Stone, A. C. Croftan, Wallace Blanchard, Henry F. Lewis, J. Cooke-Adams of Chicago and Terry M. Townsend of New York.

Experiment 2. I secured the ovaries of a subject, seventeen year of age, dead by violence for twelve hours. A woman, fifty-nine years of age, suffering from the effects of a total ablation of the uterine appendages sixteen years ago, to whom I explained the theory, methods and dangers of the operation, courageously consented to have me perform the implantation experiment upon her. One of the ovaries of the dead subject was implanted eleven hours later (March 2d) in the patient's left labium majus by a technique to be hereafter described. Dr. Carl Michel assisted at the operation. It is too early yet to predict results, but the wound is healing kindly and I have every reason to hope for success from the implantation. The results will later be presented to the profession.

The conclusions which will be submitted in the aforesaid paper will embrace: (1) Selection of appropriate dead subjects as donors of sex-glands. (2) The probability of successful implantation of glands which have been frozen—with due credit to Carrel for his remarkable observations and experiments. (3) The possibility or probability of benefit from implantation of sex-glands in dementia precox, its congeners, impotency and sterility, psychopathia, sexualis, chronic diseases of the skin, the disturbances incidental to the menopause, arteriosclerosis, the results of sex mutilations, and retarding senility. (4) The question of permanency of result. In this paper also will appear a plea for such legislative action and education of public sentiment as shall enable us to obtain for experimental and therapeutic purposes the material necessary for sex-gland implantation. —G. FRANK LYDSTON, M.D., in *Bulletin of Chicago Medical Society.*

MENTAL HEALING AS A COMMERCIAL ASSET.

We live in an age of wonders and of progress. The conditions of yesterday are lost sight of in the amazing progress of today. So great have been the advances of scientific knowledge in the last fifty years that one is prepared for almost anything. Not only in the scientific world but in commercial matters as well is progress truly astonishing. Business enterprise today uses the worthless by-products and waste material of yesterday. The fact that the squeal of the pig is the only thing that goes to waste in the modern stockyards has long since passed into the realm of commonplace. Yet it remains for an accident insurance company to show systematically the financial value of the denial of human ills. The Preferred Accident Insurance Company of New York employs as an adjuster in Chicago a devotee of Christian Science. He is said to be a very valuable official on account of his ability to make the people insured in his company regard their injuries from a Christian Science point of view. Heretofore the possibilities of a healer in any of the "mental science" cults have been restricted to "absent treatment" and "mental treatment," with the acceptance of such fees as the customs of the sect have prescribed. Thanks to the Preferred Accident Insurance Company of New York, a new and brilliant future is now open to the mental healer. He can be employed on a salary by accident insurance companies to convince the policyholders that they are not really hurt and consequently have no claim against the company. But why limit such beneficent activities to insurance companies? asks *The Journal of the American Medical Association.* Why cannot each railroad and street-car company have a mental healer in its employ who can hasten to the scene of the accident and convince the victims that the unfortunate event was only a delusion of their mortal mind and that nothing has really occurred to them? Nor can the development of this new and brilliant method be limited to commercial and industrial conditions. Our government is standing on the brink of war with Mexico. Why send surgeons with the battleships or ambulances and

hospital trains with the army? A sufficient corps of mental healers, sent out on the battlefield after each engagement, will convince each wounded soldier that the bullet which struck him was only a delusion and that nothing has really happened. Bandages, dressings, anesthetics, instruments, hospitals, sanitary precautions and regulations are all useless. If the teachings of the "mental healer" are to be accepted, we have only to convince ourselves that everything painful, dangerous or unpleasant to ourselves or others is nonexistent, in order to become prosperous, individually and nationally.

THE COST OF PASTEURIZING MILK.

With a properly designed and properly operated plant, the average cost of pasteurizing milk is $0.00313 a gallon, and of cream $0.00634 a gallon, according to tests recently conducted by the U. S. Department of Agriculture. These tests also show that the "flash" process, by which milk is raised to a temperature of 165° F. and kept there for a moment only, is more expensive than the "holder" process, in which milk is maintained for 30 minutes at a temperature of 135° to 145°. The "holder" process requires 17 per cent less heat than the other, and in addition there is a saving on the expense of cooling. For hygienic reasons also the department recommends the "holder" process.

Many milk plants and creameries, it was found, do not attempt to make any use of the latent heat in the exhaust steam from their engines and steam driven auxiliaries. This heat would be sufficient, in many cases, for all the pasteurizing done in the plants if it were properly utilized instead of being permitted to go to waste. When exhaust steam is used it is calculated that for every 400 pounds of milk pasteurized per hour with it one horsepower is taken from the boiler load, with a consequent saving in fuel cost.

Another common source of waste was found to be the faulty arrangement of apparatus and leaky piping. The loss from these causes may run as high as 30 per cent of all the heat required, a loss that can be reduced to negligible proportions by proper arrangement. The use of the regenerator in particular, by which a large portion of the heat in the pasteurized milk is transferred to the raw product, is also an important factor in securing maximum economy.

In considering the cost of pasteurizing, the investigators estimated the life of the necessary apparatus at four years and the annual depreciation, in consequence, was figured at 25 per cent. This is due to the fact that the whole dairy apparatus must be taken apart after each operation in order to give it a thorough cleaning. This necessarily results in rough usage. The mechanical equipment, such as the engine, boiler, shafting, etc., has, on the other hand, been considered as depreciating at the rate of only 10 per cent per annum.

In these tests, the results of which are contained in Bulletin 85, the investigators have confined themselves entirely to the engineering features of pasteurizing, their object being to ascertain as closely as possible the necessary cost of the process. The hygienic and sanitary aspects of the question are covered in other publications of the Department of Agriculture.—*Bulletin U. S. Agricultural Department.*

Society Proceedings

BARBOUR-RANDOLPH-TUCKER SOCIETY

EDITOR OF THE W. VA. MEDICAL JOURNAL:

The Barbour-Randolph-Tucker County Medical Society met in the parlor of the Gassaway Hotel in Elkins on April 2d.

We had thirteen members present. Dr. Murphy, our President, was present and presided.

Dr. S. G. Moore gave a very interesting talk on "Treatment of Summer Diarrhoea." The Doctor stated that the greatest factor in these troublesome ailments among the children was either ignorance or carelessness of the mothers or nurses in feeding, and that both the quality and quantity should be guarded. Most of these troubles are preventable, and therefore the prophylactic measures should command the greater attention of both physician and parents.

Dr. Moore stated that the quality of the stool gave a knowledge of the character of trouble within the bowel, and therefore physicians should always carefully examine the passages before prescribing. While the Doctor has been refreshing his mind in the city noted for its character of brain food, yet we are frank to say he did not advise "beans" as a suitable baby food.

Dr. J. A. Arbuckle discussed "The Duties of the Physicians in Filling Out Benefit Certificates." He called attention to the fact that often physicians carelessly filled certificates according to what the applicant said and not according to actual clinical knowledge, and thus innocently or carelessly became a party to aiding a professional class of maligners in obtaining unjust benefits, thus imposing a burden upon beneficiary orders and aid societies. The doctor urged greater care in these matters, that wrongs may be avoided, the truly deserving protected and justice prevail. This brought out a general discussion and many amusing incidents were related of the means by which physicians had been misled or attempts had been made to procure the physician's endorsement to pretended ailments.

Dr. W. W. Golden read a paper on "Some of the Menaces of Our State."

The Doctor said that two of the greatest menaces were typhoid fever and the illegal practitioner—and both of which were preventable.

Of typhoid fever he said that, though we had a mountainous state and presumably pure air and water, good drainage, etc., still statistics revealed the fact that according to population West Virginia had a greater per cent of typhoid fever than any other state in the Union. This condition is due to our contaminated water supply and the typhoid fly, both of which may be curtailed, if not eliminated, by rational means, but requires concerted, persistent effort.

As to the illegal practitioners, he said he was not only a menace because he was an open violator both of the letter and spirit of the law, but that he attempted to cure dangerous and fatal diseases with little or no knowledge of the nature

or cause of the disease and a less knowledge of a rational or safe treatment. He was a menace also because he essayed to cure what he could not and by means employed did irreparable damage or caused such delay as to preclude any remedy. He not only is a menace physically, but a greater foe financially, in that he deprives and despoils of substance, giving no equivalent in return.

Dr. Golden urges the strict enforcement of the law against all who do not comply with its requirements.

Dr. F. B. Murphy being the hold-over delegate to the State Medical Association, Dr. J. A. Arbuckle was elected his alternate and Dr. H. K. Owens was elected the new delegate, with Dr. W. W. Golden as his alternate.

The following resolution was unanimously adopted:

Resolved, That it is distinctly the duty of the officers of the State Medical Association to take up with the Public Service Commission the matter of the Workmen's Compensation Law, with a view to removing the unbearable hardships its administration is imposing on the medical profession of the State; that the officers of the State Association be urged to take immediate steps in this matter, if it has not already been done; that a copy of these resolutions be sent to the President and Secretary of the State Association, and that a copy be sent to the WEST VIRGINIA MEDICAL JOURNAL.

J. C. IRONS, *Secretary.*

LITTLE K. & OHIO VALLEY SOCIETY.

Editor W. Va. S. Med. Journal:

Owing to sickness I could not report proceeding of our March meeting, so in this letter will combine report of last two meetings.

The Society met on March 5th, attended by a goodly number. Mr. Campbell Neptune, Pharmacist, Sec. of the State Pharmaceutical Association addressed us on the Yost law carrying out the Prohibition Amendment, as to its sections affecting the druggists and physicians of the State, also of the proceedings of the conference held in Charleston with Commissioner Blue, with various officials etc., affected by the law. The sale of all forms of liquors, except pure grain alcohol is absolutely prohibited. That the druggist can sell it for medicinal purposes on prescriptions from reputable physicians—on a special form of blank, keeping a stub for the physician as a record, in case of investigation by proper officer. That the druggist can sell wine only for communion purposes and alcohol for mechanical and medical purposes, keeping record of said sale.

That prescriptions of the doctor must state number of times prescribed for same individual in past 12 months; disease for which prescribed; if physician is one of bad habits or a victim of drug habit his prescription is null and void. If physician is convicted twice of such fraudulent prescribing he is punished by fine and imprisonment. Further, no preparation of malt, as maltine, liquid malt, Trommers' malt extract, and similar preparations, seldom, if ever used as a beverage, is permitted. No wines permitted, whiskies or brandies or other liquors, only purely grain alcohol.

After some discussion, although the law does not admit of any discussion, a vote of thanks was then given to Mr. Neptune for his address and the Society adjourned.

April 2nd. The Society met, Dr. McNeilan, president and a few faithful members present. The following members were selected as delegates to the State Society meeting next month, viz. Drs. B. C. Robinson, W. M. Campbell and L. O. Rose, all of this city. Alternates, Drs. B. E. Harrison, Cottageville, Jackson, Co.; C. W. Albert, Parkersburg and L. F. Keever, Parkersburg. In the unavoidable absence of the essayist of the evening, Dr. W. J. Davidson, his paper on "Surgery of the Cul de Sac" was read by Dr. McNeilan, Treas. After a brief allusion to the history of operations for drainage of the pudulent and serous collections through the Douglas pouch. He emphasized the great credit that was due to the late Prof. Pryor of N. Y. for introducing and making popular in this country thi smethod of operating. Dr. Davidson, profiting by the teaching of this preceptor, Prof. Pryor, while at the Polyclinic Hospital, had used this method in many operations for different diseases of the lower abdominal cavity other than that of drainage, as extra-uterine pregnancy, before and after rupture, hysterectomy and removal of medium sized tumors. He emphasized the great safety, by lessened shock, less danger from post-operative hernia, and the aesthetic absence of visible scar commending it to the patients mind.

The members discussed the subject, all regretted the absence of Dr. Davidson, who could no doubt have illustrated the subject by relating cases showing the advantages of this method of operating.

Dr. Campbell reported a case where he removed a ring pessary (soft rubber) from a patient who said that it had been introduced by Dr. Moffitt of this city over 30 years ago, it was in a good state of preservation, only symptom of its presence a muco-sanious discharge, staining her clothes.

Dr. Sharp cited from the works of older writers of the days when pessaries were in frequent use. Accounts of many such occurrences where pessaries were cause of many injuries from being introduced and forgotten or neglected—giving rise to suspicions of cancer.

In Durhassin's Manuel of Gynaecology, he quotes a paper reciting over 20 of such cases. Skene and Munde also report cases in some of which it was necessary to remove the pessary in sections.

The officers of the Society regret the great lack of interest as shown by the slim attendance at our meetings, they, in addition to the usual notices by mail, remind our city members by telephone late in the afternoon of meeting day to remind them to come. Not much encouragement to the officers to try to keep up the Society. Is it so everywhere?

Yours fraternally,

W. H. SHARP. Tr., *Reporter.*

MINGO COUNTY SOCIETY.

WILLIAMSON, W. VA., April 24, 1914.

Editor West Virginia Medical Journal:

The Mingo County Medical Society held its regular monthly meeting on the afternoon of April 21st, in the reception room of the Williamson Hospital. Dr. Tunis Nunemaker, President, was in the chair and nine members presnt.

The scientific program was most interesting especially a paper on "Hereditary Syphilis" with a report of four cases by Dr. W. J. Smith. Dr. A. G. Rutherford, County Health Officer, reported several cases of smallpox in this vicinity explaining methods the Board uses in their effort to keep this contagion in eheek.

Our next meeting which will be on the fourth Tuesday in May will be set apart as the annual business meeting as provided for in our by-laws. We expect to have a good representation at the Bluefield reunion, and hope to help make it the best meeting the State Society has ever known. Meeting adjourned at 4:40 p. m.

Yours very truly,

W. H. TRIPLETT, *Sec'y.*

OHIO COUNTY SOCIETY.

Nov. 24th. The Society met, Dr. Thornton presiding. 25 members present. Dr. E. A. Hildreth, III, read a paper on the treatment of "Sinus Infections." He said that in the treatment of the sinuses bacterial and anatomical causes have to be dealt with. He enumerated the bacteria causing these infections and said that septal deformities as spurs, polyps and any malformation of the nares were the chief anatomical causes. The diagnosis is not difficult, pain and tenderness being the chief symptoms. He spoke of the X-ray in the diagnosis of chronic cases. Free drainage and sterilization of the cavity were the chief factors in the treatment. He said the antrum of Highmore, frontal, ethmoidal, and sphenoidal sinuses were the ones usually involved. He then took up in detail the medical and surgical treatment of acute and chronic sinuitis. Dr. Quimby opened the discussion and spoke of the X-ray as a diagnostic aid in sinus disease. The paper was further discussed by Drs. Burns, Hupp and Thornton. Dr. Hildreth, in concluding, said he thought it best not to allow the patient the use of the nasal douche in these troubles.

Dr. Weinberger then read a paper on "The Abderhalden's Test for Pregnancy." He stated that in the blood of a pregnant women was present a proteolytic enzyme as a reaction on the part of the body to the pregnancy. He described in detail the technique of the test and exhibited the apparatus and materials used in making the test. He stated the reaction was positive from the middle of the second month, and negative in from ten to fifteen days after labor. He spoke of the value of this text as a diagnostic aid, both in ordinary cases and medico-legal proceedings. Also its value as an aid in the differential diagnosis of pregnancy from other obscure abdominal conditions. Authorities state that the test is always positive where pregnancy exists. Dr. Jepson, in opening the discussion, quoted some recent authorities to the effect that the test is not always positive in pregnant women. Further discussion by Drs. Schwinn and Burns. Dr. Weinberger spoke of the use of polariscope in making this test and said that the blood for the test should be taken from the patient at least three hours after a meal.

Dr. Hupp reported a case of painful scar following the Bassini operation for hernia and two cases of ventral hernia; one at McBurney's point, and one outside of the left rectus muscle due to injury to the superficial nerves supplying these muscles and atrophy as a result of such injury. He also showed stereoptican anatomical pictures showing the anatomy of the parts mentioned, discussed by Dr. Schwinn. Adjourned.

Dec. 1st. Meeting called to order by Dr. Thornton. 26 members present. First paper of the evening was on "Eclamsia," by Dr. R. M. Baird. (This paper was printed in the Journal).

Dr. Mcgrail exhibited a case of Hodgkin's disease in which the cervical, inguinal and axillary glands were enlarged. Dr. R. U. Drankard read a paper on "Treatment of Typhoid Fever." He said that the disease was a self-limited one, having no fixed type or course. Spoke of the modes of infection by contact, milk or water supply or flies, etc. He emphasized the isolation of the patient, good nursing, regulation of the diet, disposal of the excreta, and said that drugs play a very miror part in the treatment of this disease The diet now used is more liberal than formerly, but if abdominal symptoms appear prominent the diet should be restricted. For instance, the substitution of whey for milk and the use of broths, hydrotherapy both internally and externally is most important in the reduction of temperature and the treatment of nervous symptoms. He discussed the complications arising during the course of typhoid, dwelling particularly upon hemorrhage and perforation. Dr. W. M. Dalby regarded the use of hydrotherapy, the nursing, and the diet as the three important factors in the treatment of this infection. He spoke of calomel in the onset of the disease and the use of yeast during the disease. He urged the frequent cleansing of the mouth and tongue and spoke well of the use of ichthyol in combatting tympanites. Further discussion by Drs. Hildreth, Hupp, Reed, Jepson, Gaydosh, Armbrecht and Fulton. Dr. Drinkard, in concluding, said that white blood counts are only of help in the diagnosis of perforation when regular counts have been made throughout the course of the disease, and that this was even then only to be considered as one of the points in making the diagnosis of perforation, the clinical symptoms being of far greater importance. Adjourned.

Dec. 8th, 1913. Meeting called to order by President Thornton. 23 members present. Dr. H. M. Hall read a paper on the "Workman's Compensation Act." He gave the main points in the law, spoke of the regulation of the fees of physicians by the State, what it meant to the profession to the employees, and to the corporations coming under the law. He showed conclusively that the fees fixed by the law were

absurdly small considering the services rendered. He urged upon the members of the Society the importance of taking action in regard to the proper adjustment of this law. Dr. E. A. Hildreth, II, stated that the bill had been presented to the legislature by the Ohio Valley Trades and Labor Assembly, that it was gotten up by the attorney of the coal companies ,in their interest, and he said he thought that before long the law would be properly amended. He urged due consideration and that no hasty steps be taken. Further discussion by Drs. Staats, McMillen, Spragg and Gaydosh. Dr. Hildreth moved that a committee be appointed to make a report on this law at the last meeting of the Society in January. Motion was carried. Drs. Hildreth, Hall and Staats were appointed on the committee. Adjourned.

Reviews

SURGICAL CLINICS OF JOHN B. MURPHY, M. D. Volume II, Number VI. (December) and Volume III, Number I, (February). *THE SURGICAL CLINICS OF JOHN B. MURPHY, M.D.*, at Mercy Hospital, Chicago. Volume II, Number VI. (December). Octavo of 186 pages; illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Published Bi-Monthly. Price per year: Paper, $8.00, Cloth, $12.00.

Murphy's Clinics continues ever fresh and interesting. In these, as in former numbers, his bone work takes the leading place, but there is a wealth of clinical material in addition, of great variety and of exceeding value.

To the physicians who attended the Clinical Congress of Surgeons in Chicago last November, these numbers will particularly appeal. The cases operated on during the Congress are listed in the December number, and in the February issue many are reported in detail. Physicians who were unable to attend the Congress may here enjoy every benefit of those unique Clinics in these verbatim reports. There is not a word or point omitted. The "Murphy wrinkles" are in evidence and the same force and clearness of expression characterize every sentence in the printed as in the spoken words. To have these Clinics in permanent form is most fortunate.

R. J. R.

MEDICAL GYNECOLOGY. By S. WYLLIS BANDLER M.D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Third Thoroughly Revised Edition. Octavo of 790 pages, with 150 original illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth $5.00 net; Half Morocco, $6.00 net.

This is a work which at once took a high position, and the fact that a third edition is so soon demanded proves not only the value of the book but also that gynecology is making progress. The smallest number of general practitioners become skillful operators, and hence the majority do not need to be especially informed in the technic of gynecological surgery. But all need to know well the many non-surgical conditions met with in women ,and the size of this Medical Gynecology indicates that there is very much to learn that is not surgical in one's practice among women

This volume is considerably larger than former editions. Much very interesting matter has been added on the influence of internal secretions in the realm of gynecology. Great advance in our knowledge of this particular subject has been made in recent years, and the latest information is here recorded, about sixty pages being given to this topic. We cannot speak too highly of the work.

INTERNATIONAL CLINICS—A Quarterly of Illustrated Clinical Lectures, etc. Edited by H. W. CATTELL and others, Volume III ,23d Series, 1913, and Volume I, 24th Series. Price $2.00. J. B. Lippencott, Philadelphia.

In our previous notices of this valuable periodical we omitted to make mention of the first of the above named volumes. It contains papers by such well known men as Abrams, of California, who writes on "Treatment of Diseases of the Heart"; Boardman Reed, who writes on "Gastric and Duodenal Ulcers"; Simon Baruch, who writes on "Treatment of Pulmonary Tuberculosis by Hydrotherapy";H. T. Byford, who discusses "Anemia from a Surgical Standpoint"; Bainbridge, who has a paper on "Cancer and Allied Diseases." Many other papers of equal value are in this volume.

Volume I of Series 24 is represented by such men as Walter Berring, H. M. Cattell, N. S Davis, J. Madison Taylor, Victor C. Vaughan, Robt. N. Willson and others. The papers cover a wide range of subjects in medicine and surgery, the volume concluding with an article of nearly 100 pages on "The Progress of Medicine During the Year 1913." This alone is worth more than the cost of the volume.

NEW AND NON-OFFICIAL REMEDIES—1914.

This book issues from the press of the Am. Med. Ass'n, and contains discription of the articles which have been accepted by the Council on Pharmacy and Chemistry of that Association. While the majority of these remedies will perhaps enjoy long life, a number have proven their right to exist, and nowhere can one so conveniently find a description of their properties and uses. Send for a copy.

Medical Outlook

Dr. Victor C. Vaughan says:

"Preventive medicine has saved 20,000 lives a year in the last ten years.. The average of human life has been increased nearly four years in the last ten years. The average of human life in the U. S. today is fifty years, and if we are to apply exactly what we know today and never learn anything more, the average human life would be increased by fifteen years. Are there facts more forceful than these, and are not the people of the U. S. sufficiently intelligent to appreciate them?"—G. D. L.

ADVANTAGES OF ORGANIZATION.

I would like to mention the benefits that have accrued from our organization:

1. The higher degree of man's brotherhood to man that is prevalent among us.

2. The increase in our medical knowledge, and therefore efficiency, from the hearing and discussion of our scientific program.

3. The higher remuneration for our professional services.

4. The friendly rivalry promoted and our endeavors on this account to keep abreast of medical advances.

5. The greater frequency of consultations in puzzling cases.

6. The lesser liability of our patients playing fast and loose with us when they know we stand united.—*Northumberland Co.* (Pa.) *Med. Soc'y Notes.*

VOMITING IN PREGNANCY. -- --

A. H. Curtis, Chicago (*Journal A. M. A.*, February 28), reports a case of obstinate vomiting of pregnancy treated by means of injection of 15 c.c. of blood-serum drawn from a pregnant woman giving a negative Wassermann. It was defibrinated and injected into the muscular tissue of the back. Emesis continued but a larger proportion of food was retained. Five days later 10 c.c. of defibrinated blood from another pregnant woman with a negative Wassermann was injected and vomiting ceased completely in eighten hours. Two subsequent injections were made within the next two days and treatment was then discontinued and the pregnancy progressed normally. The case is reported with the hope that others may use the treatment in similar cases.

EXPULSION OF AN OVARIAN CYST THROUGH THE ANUS DURING LABOR.

R. Michaelis, *Zentralblatt fur Gynakologie*, January 24, 1914.

Michaelis reports the case of a multipara who was brought into the hospital after twenty-four hours of labor.—The head was firmly engaged in the second position. Forceps were ineffectually tried, but at the same time the anus opened and a cyst-like mass protruded through it. After this, delivery was easy. The tumor proved to be an ovarian cyst which had broken through the anterior rectal wall under the influence of the labor pains. Laparotomy and repair of the rectal wall followed, but the patient died in a few days. The growth had undoubtedly been pushed down before the head, and the rectum bursting had delivered itself in this manner.—*Am. Jour. Surgery.*

ASPIRIN IDIOSYNCRASY.

E. N. Reed, Clifton, Ariz. (*Journal A. M. A.*, March 7), reports the case of a patient who, after taking a capsule containing 5 grains of aspirin for a cold, was taken with vomiting in about half an hour, followed by a "stiffness" in the throat making him think he was developing a tonsillitis. An hour and a half after taking the capsule his face was swollen and cyanotic, the eyelids edematous and almost closed and the conjunctiva injected, the whole face gorged, preventing nasal breathing, the buccal mucosa and pharynx were dark red and swollen, the uvula twice its normal size, The pulse was 120, soft and full, temperature 98. The breathing was such as one might expect with edema of the glottis. No treatment was instituted; the symptoms largely disappeared in six hours, but there was a fine, papular rash on the trunk the next morning. The patient reported a similar experience about a year before, lasting about five hours, after taking a capsule of 2½ grains each of aspirin and phenacetin.

THE PATHOLOGIC ROLE OF THE PROSTATE.

H. H. Young, Baltimore (*Journal A. M. A.*, September 13), points out the etiologic importance of the role of the prostate and seminal vesicles in general toxemias. The symptoms are often so remote and disconnected that these organs are not suspected. He has seen many cases of lumbago, sciatica and vague pains in many other localities caused by chronic inflammations of the prostate and seminal vesicles, involving nerve terminals and causing referred pains according to the dicta laid down by Head in his explanation of the latter. He therefore emphasizes the importance in examining the prostate in many painful conditions anywhere between the diaphragm and the toes when there are no local symptoms directing attention to the prostate itself, and it is to the symptoms resulting from the absorption of toxins and bacteria from the organ to which he especially desires to call attention. Little is found in literature regarding these remote infections, and he refers to Fuller's recent article as one bearing on the subject, in which he recommends his operations of vesiculotomy in cases of toxic rheumatism, etc. Young describes an operation of his own which, in its first portion ,is practically that of perineal prostatectomy. Instead, however, of incising the membranous urethra he brings the prostate and seminal vesicles into view and performs whatever operation is needed. The importance of pus tubes in the male, as shown by Belfield, suggests the desirability of sometimes opening wide the ampullae of the vasa deferentia after the covering fascia is turned to one side by incisions, and more satisfactory drainage can thus be obtained than by operating elsewhere. Young says, in conclusion, that these chronic inflammations of the prostate and vesicles last often for years with very few local symptoms, and are the insidious cause of remote processes and chronic pains in various parts of the body; hence the importance of rectal examinations as a routine procedure. The enforcement of these in the medical department of Johns Hopkins has cleared up many obscure cases and led to their cure.

NEGRI BODIES.

Recent investigations of the Negri bodies justify the following conclusions:

1. The Negri bodies are *specific* to hydrophobia. (Not agreed to by all observers as yet).

2. Numerous Negri bodies are found in *fixed* virus.

3. Negri bodies are found before the beginning of visible symptoms, i. e., on the fourth to seventh day.

4. They are organisms belonging to the class of Protozoa (some considering them encapsulated parasites). They have a definite, characteristic morphology constantly cyclic, the structure and staining qualities resembling those of certain protozoa, notably those belonging to the suborder Microspiridia.

Personally I believe the Negri bodies to be the cause of hydrophobia, and for the following reasons: The Negri bodies are living organisms; this organism is found in every case of hydrophobia in large numbers; they occur *only* in this disease; they appear at the time the host tissue becomes infective, in regions that are infective and increasing in these infective areas with the course of the disease.—*Dr. R. S. Klein in Medical Council.*

EMETINE IN THE TREATMENT OF HEMOPTYSIS.

Impressed by the prompt disappearance of blood from the stools in amebic dysentery treated by hypodermic injection of emetine, Dr. C. Fladin thought of the possibility of the drug's proving effectual in treatment of hemoptysis, and the results have more than justified this anticipation. He used the remedy by injecting into the thigh 1 c.c. (15 minims) of distilled water containing 0.04 (2-3 grain) of emetine hydrochloride. The result of the injection was surprising, the hemorrhage from the lung stopping immediately. No disagreeable sensation was experienced, no palpitations, dizziness or nausea. In some cases there was no longer a trace of blood in the sputum, but usually there were occasional blackish clots for a time.

In the more threatening cases the hemoptysis may return and consequently he repeats the injection twelve hours later and once on the following day to a total of five. With the exception of one case of galloping tuberculosis, the tendency to pulmonay hemorrhage was definitely arrested in all his eight cases as also in twelve others in the experience of other physicians. He determined the arterial pressure before and after the emetine and was unable to note any appreciable change in this or in the coagulation of the blood or the blood-count. The measure seems to be entirely harmless and has succeeded when all others have failed.—*Therapeutic Guide.*

TYPHOID FEVER.

In the October number of *The Therapeutic Gazette,* Charles W. Leiders reports on the theory and effect of vaccine therapy in typhoid fever, and reports cases. Extensive experience has proved positively that typhoid can be prevented by proper vaccination, and as agglutinins have been and are found just as long after inoculation as following an attack of typhoid fever, there is every reason to believe in an immunity following inoculation equal in duration to that conferred by a natural infection. In nineteen cases of typhoid fever treated with autogenous vaccine, and three with stick vaccine making twenty-cases, one death occurred, or a mortality rate of 4.5 per cent. One case with relapse or 4.5 per cent. relapses. As in every method of treatment, failures and successes run hand in hand; before condemning this form of therapy it is often well to see if the fault does not lie in the individual using the vaccine, rather than in the method itself. When failure results, four causes according to Emery must be considered (1) the improper selection of vaccines; (2) the improper preparation thereof; (3) incorrect doses; (4) unsuitable doses. His conclusions are: (1) The excessive increase in immune bodies or protective substances found in the blood of patients undergoing treatment with typhoid vaccine affords a sound basis on which the principles of vaccine therapy rest. (2) The negative phase, or increased susceptibility following vaccine inoculation, except in excess doses, has been proves not to be a factor in typhoid vaccine therapy. (3) The fact that vaccines in quantities sufficient to stimulate an increased production of immune bodies can be injected subsutaneously into typhoid patients without aggravating their toxic condition is another strong basis founded on clinical experience (4) This method is without danger when administered by those with a technical knowledge of immunology, and the facilities of studying the amount of protective substances in the blood. The measure of the bactericidal power of the blood should be estimated in addition to the agglutination test, in basing properly one's knowledge of the efficacy of this therapeutic means. (5) Autogenous vaccine is the proper and most scientific method of vaccine administration. A good stock vaccine of single or inclusive strains, should be used as soon as possible after diagnosis until an autogenous vaccine is obtained. The sooner the in-injection, the shorter the duration of fever, and the milder the attack has been found to be. (6) In putting vaccine therapy to the test, it is best to take a middle gorund between radicalism and empiricism on the one hand, and conservatism and purely scientific endeavor on the other. (7) The results so far obtained tend to show that vaccine therapy in proper hands, lowers the death rate, diminishes relapses, lessens complications, and has proven to be of value in the treatment of typhoid carriers.—*Cleveland Med. Jour.*

CLEFT PALATE, Arbuthnot Lane's Operation for

By H. Blakeway, M.S., F.R.C.S., *The Practitioner,* February, 1914.

In a comprehensive article on Hare-Lip and Cleft Palate, Blakeway points out that the first surgeon in England seriously to attack the position of those who practiced Langenbeck's method was Arbuthnot Lane, who devised an operation which can be performed (and for choice is performed) as early as the day after birth; it has even been done at as early an age as seven hours. Not only can it be done thus early, but it can be applied to any cleft, no matter how wide it may be; and the hare-lip is us-

ually operated upon at the same sitting as the palate.

The operation, often referred to as the "turn-over flap operation," consists, briefly, in raising from the soft parts on one side of the cleft a flap consisting of mucous membrane, submucous tissue and periosteum covering the bony palate, or of the half thickness of the soft palate in the region behind the bone, which flap, having its hinge at the edge of the cleft, is turned over across the cleft like a page of a book, so that its raw surface is exposed in the mouth (as is also the raw surface from which the flap has been raised) and its epithelium-covered surface looks upwards into the nasal cavity; the free edge of this flap is then tucked under the muco-periosteum covering the bone on the opposite side of the cleft, this muco-periosteum being raised from the bone for some distance so as to admit the edge of the flap; the latter is then fixed in place with sutures. Certain modifications required in the case of the soft palate need not be detailed.

The flap may be made as wide as is necessary; it need not be confined to the width of the palate, but, if the milk teeth are not erupted, the soft parts covering the alveolar process, and even those of the cheek, may be made use of, so that closure can be effected in the case of any cleft, however wide it may be. But there is a compensating disadvantage in making such a wide flap; not only is its blood supply likely to be more precarious, but the flap can scarcely be raised from the alveolar process without doing some damage to the underlying tooth germs. The dental alveoli at this age are protected by bone at the sides, but below they are covered in only by the soft parts of the gums, and in the raising up of these soft parts of the gums the teeth are apt to be exposed. The resulting damage is likely to be confined to the temporary teeth, but it should be remembered, as Blakeway very properly states, that the disadvantage is not a negligible one.

INTRANASAL TREATMENT OF DYSMENORRHEA.

Referring first to Fliess' work on the relation between the nose and uterus, and his description of "genital spots" in the nasal mucosa, Emil Mayer, New York, (*Journal A. M. A.*, January 3), reports his own experience with the intranasal method of treatment of dysmenorrhea. In cases in which absence of uterine disease is a cause was established by careful examination, and the failure of the usual treatment, especially when there was no obvious nasal stenosis which was so in most the cases, and there also existed decided tumefaction about the genital spots, he found that the application of cocain gave wonderful relief to many of the patients. This treatment had to be repeated at each menstruation, and he therefore substituted the galvanocautery or trichloracetic application. The results obtained by the latter method were so permanent that he has lately used this exclusively. He says: "A mild solution of cocain was applied just before the use of the acid. The slough that forms disappears in about five days, and another application may then be made. The patient was then asked to report the results of her next menstruation. If entirely favorable nothing further was done." In cases in which relief was slight or wanting, four applications were made between the menstrual periods, and if no benefit followed then it was so reported. Ninety-three cases are briefly reported to go into the author's reprints. His conclusions are as follows: "1. Permanent relief is obtainable by intranasal treatment of from 50 to 75 per cent. of the cases. 2. Trichloracetic acid applied to the genital spots four times at intervals between menstrual periods is usually sufficient to obtain lasting results. 3. It affords an additional field of usefulness to our therapeutics. These patients were from every walk in life. Only the bare facts of the cure of a large number of these patients are given; but we should bear in mind that all of these women suffered inordinately, for most women accept some pain at menstruation as a matter of course, and it is only after suffering becomes unbearable that the physician is consulted. Therefore, their relief without drugs, operation and uterine treatment, by a few applications to the nose adds materially to their comfort and the joy of living."

PARATYPHOID FEVER.

Paratyphoid fever is rarely a fatal disease, hence the detailed report of a death in a case in which the diagnosis was positive and with a carefully made post-mortem and bacteriologic examination by L. D. Bristol, Syracuse, N. Y., (*Journal A. M. A.*, April 4), is of interest. The case here was of the type A which according to the literature seems less fatal than the B type. The interesting and atypical features of the case are described as first, its fatal result; second, the lesions found in the intestine; namely, non-specific ulcers; third, the lack of involvement of Peyer's patches; fourth, the enlargement and great increase of endothelial cells in the mesenteric lymph-nodes which have shown but little change in other cases and the exceptionally normal spleen which is usually found enlarged and changed. From a study of this case and the most important literature, the following conclusions are offered: "1. Paratyphoid is considered rare and not usually fatal. Both of these ideas might be changed with closer scrutiny and study of 'clinical typhoid' without positive Widal tests and blood-cultures. 2. The spleen is not necessarily enlarged or involved in paratyphoid of the 'A' type. 3. In health laboratories or in other places in which these examinations are made, a serum should be tested for paratyphoid agglutinins, both A and B, after the serum has been pronounced negative three times so far as the true typhoid Widal is concerned. 4. More accurate blood-studies and cultures should be made in all cases which resemble typhoid. . An antiparatyphoid vaccine should be tried in the treatment of the disease, and as a measure of prevention such vaccines should be used either alone or in combination with typhoid vaccine."

The West Virginia Medical Journal

Published Monthly
by
The W. Va. State Medical Assoication

Under the Direction
of the
Committee on Publication.

COMMITTEE ON PUBLICATION:
S. L. JEPSON, Chairman.
L. D. WILSON. G. D. LIND. C. A. WINGERTER.
Entered as second-class matter August 10, 1906, at the Post Office at Wheeling, W. Va.

Vol. 8—No. 12. WHEELING, W. VA., JUNE, 1914 Subscription Price $1.00 per Year Single Copies 15 Cents.

Original Articles

PRESIDENT'S ADDRESS.

Richard E. Venning, M.D.,
Charles Town, W. Va.

I wish to express to you, fellow members of the West Virginia State Medical Association, my appreciation of the honor you have conferred upon me, and I am not unmindful of the great responsibilities and obligations incumbent upon the reception of this high office. I wish to express my gratitude to the officers and members for their helpfulness and ready assistance, and especially to thank our efficient Secretary, Dr. Butt, on whom much of the burden of preparing for this meeting has fallen.

Each year the officers have tried to foster the fraternal spirit of these meetings, but the annual meeting of our State Medical Association must mean something more to us than a mere gathering together of medical men for social enjoyment.

No matter how well our business departments may be conducted, and the high level of efficiency in the general management maintained, the keynote to a largely attended and successful meeting is the attractiveness of the scientific program. This should be a clearing house for all the departments of medicine and more especially of preventive medicine, and should offer unusual opportunities for our advancement.

Aside from things relative to a scientific nature, our Society must suggest and insist upon the passage and execution of laws that will promote and protect the public welfare and health.

"If our civilization is to be permanent and progressive, the first requisite is the education of the masses. The people must be taught to reason and to decide, calmly and intelligently, vital questions. They must be able to be convinced by argument and to support sane leaders and corrective measures. Nothing can be done in the face of an adverse or indolent public sentiment, incapable of being aroused to serious consideration or right action. Expediency and established customs must recede before far-reaching laws of living and government. Selfish purposes and individual ends must be subjected to the common welfare."—Sawyer.

"For countless generations the prophets and kings of humanity have desired to see the things which men have seen and to hear the things which men have heard in the course of this wonderful nineteenth century. To the call of the watchers on the towers of progress there has been the one sad answer—the people sit in darkness and in the shadow of death."—Osler.

The health of the people must be the first consideration in the affairs of the state as well as the paramount idea in the minds of the profession and people.

We are to be congratulated, indeed, on the personnel of our State Board of Health, the best this State has ever had. And upon our shoulders, both as individuals and as an association, rests the burden of upholding their hands.

While we feel proud of and are to be

congratulated on the efficiency of our State Board of Health, as much cannot be said of the local boards. The officers are often inexperienced in health matters and are so poorly paid that this duty has become a casual service, and with little thought of the great responsibilities attending the enforcement of sanitary laws and the regulations laid down by the State Board.

As a remedy for this I would suggest that small towns and rural sections be divided into districts. Each district should have a trained officer, well paid, who would devote all his time to the work and be under the supervision and control of the State Board.

In many states, including our own, county health officers are appointed by the County Boards of Control, and often ineffective service by incompetent men is the result.

North Carolina provides for county supervision of public health by a full-time health officer at a living salary, with close relationship to the State authority. The Secretary of the State Board of Health in a recent letter says: "I think this office is coming around rapidly to the view that a county health officer, elected by county officials, is not nearly so valuable, from the public health viewpoint, as one appointed by, responsible to and under the direction of central authority."

The first and most important step in this work of preventive medicine is for us to realize the just value or rather merits of vital statistics. No difficulty should be experienced in securing the necessary legislation towards this end, when the importance of this step is fully understood. In a recent bulletin of the American Medical Association the following statement appears:

"The present condition of the registration of vital statistics in the United States, considering the country as a whole, is not far from constituting a national disgrace. Unlike practically all other civilized countries, we have no general and thorough system for recording the chief events of human life, and especially the births of our children and the deaths of our people. Honest data, fairly presented, will remove the imputation of unhealthfulness from many localities now tainted by the apprehension of unsanitary conditions in the minds of possible incomers. Intelligent immigrants will not go where the conditions of civilization are so slack that no regard is paid to human life, even so much as to record it beginnings and endings."

The Director of the Census in a recent publication says: "It seems to me that there is nothing more important in the entire field of statistics than vital statistics, because of their direct bearing on the health and consequent welfare of the people. It certainly is both strange and shameful that the United States should be so far behind the other leading countries of the world in the registration of births."

Dr. John S. Fulton, Secretary of the Maryand State Board of Health, in a paper read before the American Medical Association, says:

"Public hygiene is built upon, is controlled and directed by and is everlastingly in debt to vital statistics. Every wheel that turns in the service of public health must be belted to this shaft, otherwise preventive medicine must remain invertebrate and unable to realize the profits available from the magnificent offerings of collateral science."

Dr. William H. Allen, in a paper read at Harrisburg a few years ago, said: "The earnest, intelligent health officer relies upon statistics for an understanding of his field. A tax collector cannot discharge his duties unless he knows the address of every debtor. A police bureau cannot protect society unless it knows the character and haunts of the degenerates. A health officer cannot execute the law for the protection of society's health unless he knows the haunts and habits of disease. For this he must look to vital statistics.

"But the greatest service of vital statistics is their educational influence. Wherever statistics are wanting sanitary administration is defective. Wherever they are complete sanitary administration is efficient. Defective vital statistics and low ideals of cleanliness go hand in hand."

I would suggest that a committee of three be appointed at this meeting to confer with the State officials and the State Board of Health, and that an effort be made to secure the necessary legislation and that this body prepare resolutions instructing this committee as to their wishes in this matter.

While considering this subject of pre-

ventive medicine I must call your attention to a recent report of Dr. Russell in which he gives the result of anti-typhoid vaccination in the United States Army for the year 1913. He reports three cases of mild typhoid and no deaths in an army of ninety thousand men, scattered over this country and abroad.

In 1907, before preventive vaccination was inaugurated, the death rate was nineteen deaths per hundred thousand against no deaths in 1913. Furthermore, no untoward effects have been reported as the result of this vaccination. What has been accomplished in the army can be done in civil ife.

In the absence of vital statistics I cannot give you the number of cases of typhoid fever occurring annually in our State, but I am informed that in the mining sections of the State the hospitals are often taxed to their capacity in caring for the patients suffering with this disease. I would urge upon you to give this matter the serious consideration it deserves and that this remedy be used as a preventive for this disease. I would also suggest that the State Board of Health make mention of this matter to the local boards throughout the State, calling their attention to Dr. Russell's recent report in the Journal of the Medical Association, May 2, 1914.

The relieving of sick and suffering humanity should be our greatest object in life, but as educators of the general public we should teach them about hygiene, sanitation and the prevention of contagious and infectious diseases.

"Public education must be talked by us collectively and individually. The past has been too secretive in many respects. We have condemned the public for taking up and endorsing the new fads, hea' cults and advertisers. The blame to a certain extent rests among ourselves. It is imperative that we turn over a new leaf, take the public into our confidence and educate them to our viewpoint of rational and scientific medicine, that the coming generation may learn to avoid the pitfalls of disease and disaster."—Welch.

We should see to it that a representative is in attendance at the different meetings of the school teachers, agricultural and other lay orders. I will not ask that a special committee be appointed for this purpose, but will refer you to the suggestion of my predecessor, Dr. Hupp, in his address to you last year. I think he defined the duties of this important committee on Medical Economics so clearly and it meets so fully with my approval and accords so well with my views that I will incorporate it in my address and beg of you to take some definite action towards appointing this committee at this meeti g.

Medical Economics—There has been recently incorporated in the State of New York the American Society of Medical Economics. The father of this important institution and its first president, Dr. E. Eliot Harris, in opening his very able paper which lead to its formation showed the members the necessity for a careful reconsideration of the duties of the men of medicine to the public and the public to the medical profession, how all this is evident because of the lack of reciprocal cooperation to alleviate the hardships which both have too long endured.

Certainly the public has a right to look to our profession for light and guidance concerning public health and hygiene.

I would recommend that a committee be appointed annually on medical economics to confer with President Harris or Secretary Hubbard of the American Society, in order that we may better understand this all-important subject, perhaps by affiliation with this society or officially bringing to the attention of this association in some tangible form the exposure of and the suggestion of a remedy for fee-splitting, lodge and contract practice, the advertising charlatans, abortionists, anti-vaccinationists, anti-vivisectionists, remedy vendors, food adulterations and exponents of religious systems

The elimination through even more rigid examinations of undesirable and unprepared candidates for a medical license.

"To aid in the enactment of legislation which shall provide for the revocation of any license to practice medicine or any license issued by the examining board for causes such as fraudulent advertising intended to impose upon or deceive ignorant or unsuspecting persons."

This Committee on Medical Economics shall "survey and study all matters that can practically be applied for the benefit of the public health, the betterment of the economic condition of the practicing phy-

sician and of the profession of medicine." —Harris.

"Its duty shall be to investigate and take appropriate action in regard to the practice of all licensed physicians, whether they be members of this society or not, in so far as the same reflects unfavorably on the profession or the public."

To co-operate with other societies with the object of establishing certified pharmacies where prescriptions may be filled with pure standard drugs as ordered. Illegal counter prescribing to be cared for in the certificate.

I would have this committee co-operate in every possible way with the State Board of Health, supporting the honorable traditions and strengthening the right arm of that exalted medical institution in its efforts for adequate appropriation and other imperative questions for the good of the profession and the welfare of humanity

I would recommend that this new committee on Medical Economics prepare and present a strong resolution at our next meeting on the segregation of the indigent feeble minded of our State and take up also the subject of a crying need for a colony for epileptics.

The personnel of this probably the most important committee of our State Association, should be made up of resolute men, willing if need be, to sacrifice time and the day's earnings, who are willing to take the bit in their teeth and travel to the four corners of the State for the guardianship and honor of the craft and the betterment of their brother man.

The medical profession should be the leader amongst the learned professions, and it is only by organization that this can be accomplished. No medical man can afford to be without the pale of membership. The college he graduated from or the hospital in which he served as interne is of little value when compared with this test of his ability and integrity: "Is he a member of his county and State society?" It is a reflection upon our beloved State Association when men are appointed to positions of trust in our public institutions who are not members of their county and State societies.

"A house divided against itself cannot stand." We must lift our profession above the plane of commercialism, but we must be sure of our defense before attacking any evil that threatens us from without. To do this we must do away with the evils of fee splitting, performing ill-advised operations for personal gain, refrain from criticising our fellow practitioner and conduct ourselves without petty squabbles of medical politics, of schools and isms and without personal animosities. Then and only then will we stand together shoulder to shoulder fighting for the common good. We must read the handwriting on the wall: the night of competition is passing and the day of co-operation is dawning. Commercialism we decry, but no more glaring illustration of this is found than the position in which the profession has been unwittingly put by the enactment of the workmen's compensation bill.

Following the lead of some other states, West Virginia has gone into the business of state insurance, the chief burden falling on the physician who does the drudgery, his honest bill cut below a living wage. "Philanthrophy at the expense of the physician." Do you notice an organized policy on the part of the grocers to give away their wares because the people were in need? If the State should attempt to fix a carpenter's wage do you think the union would keep quiet?

"It is wrong and a gross injustice for the state to constitute itself the arbitrary judge of the value of the services of physicians and surgeons. If the medical men choose and agree to render a certain class of philanthropic service voluntarily, then that is legitimate and worthy, but for them to be compelled to do so by a so-called government is all wrong. If we do what we should we will rise and smite this portion of the industrial compensation act, if not all of it."—Bulletin Butler County (Ohio) Medical Society, December, 1913.

We must not allow this new form of contract work to be saddled on us without a protest. We must have a voice in fixing the amount of the fees that shall be paid for our professional services.

A physician in my neighborhood attended an accident case seven miles from his office. For the first visit he was paid five dollars and for ten subsequent visits fifty cents each, and he had to furnish the dressing for this case. Is this a living

wage? If the members of the profession will stand together satisfactory fees will be paid and the burden placed on the employer and employee, where it belongs.

I will make no recommendation about this, but look to you for this matter to be thoroughly threshed out in the house of delegates and a vigorous protest entered by the united profession.

We are delighted to be at Bluefield this year, and I do not wish to be misunderstood, but I feel sure our meetings would be more largely attended and more helpful were they held in some large city more centrally located. Clinics, both medical and surgical, conducted by distinguished men would add much to the interest of the meeting, and these can only be obtained in a large city where there is sufficient clinical material. I would suggest that this be discussed at this meeting and that three or four of the large cities be selected as permanent meeting places and the meetings to be held in rotation.

The West Virginia State Medical Journal is one of the best in the country, but we should not be content until it is *the* best. I hope at this meeting that some action will be taken on the recommendations of Dr. Hupp, as made last year, namely, that the business cares be removed from the shoulders of the editor, so that his whole time may be devoted to the scientific and editorial department of the work and a department of progressive medicine instituted.

I would recommend that three good men be selected for this department and that each be paid a salary.

I would further suggest that each County Secretary be made a county editor and that he should contribute a short article each month, making a full report of the meeting of the county society and giving information about members of the profession as would be of interest. Let each man accepting this position remember that in a measure the success of the Journal depends upon the manner in which he performs his duties.

In closing I will quote a message from President Woodrow Wilson to the American Medical Association:

"It should be our object to unite ourselves with one unified interest, moving forward to the common goal of general service. I therefore ask you in your modern occupation to harmonize the various parts of our whole life to one another; so that heat, hostility and friction may be taken out, and all the sweet and wholesome processes of life may be restored."

SOME CASES OF NASAL REFLEX.

G. A. Aschman, M.D., B.Sc.,
Wheeling, W. Va.

(Read before the Ohio County Medical Society, March 16, 1914.)

The question of nasal reflexes is one which possesses many points of exceeding interest, not only on account of its curious development of symptoms, but also from the exceedingly broad field which it embraces as the result of our increased knowledge of intranasal diseases and the great activity which has characterized their study from a clinical point of view. To Marshall Hall is probably due the credit of first making clear to us the phenomena of reflex actions. In 1837, in his *Memoirs of the Nervous System,* he stated:

"These actions are excited and ultimately accomplished through the medium of appropriate *incident* and *reflex* nerves and their communicating medium, the spinal marrow. If any part be interrupted the phenomenon ceases instantly."

As recognized by all physiologists at the present day, in order that we may have a true reflex phenomenon, we must have (1) a sensitive nerve fibre, connected with (2) a central nervous cell or mechanism, which in turn is connected with (3) a motor fibre supplying some motor organ. But while these three parts of the arc must generally co-operate, the term reflex, as defined by Flint in his textbook of *Physiology,* can be applied to any generation of nerve force which occurs as a consequence of an impression received by a nerve-center, and reflex phenomena are by no means confined to the action of the spinal cord. The movements of the iris are reflex, and yet they take place in many instances without the intervention of the cord. The movements of respiration are reflex, and these are presided over by the medulla oblongata. Movements of the intestines and the involuntary muscles generally are reflex, and they involve the action of the sympathetic system of nerves.

Applying this to the generation of re-

flex diseases, we find that a local morbid condition of one portion of the body creates an impression which is conveyed to a nerve-center, from which there is transmitted to an entirely different locality in the economy a certain force, by which there is generated in that locality either a pathological lesion or a train of morbid symptoms.

Probably in no one of the great systems of the body do we find this reflex tendency, as we may call it, so active as in the respiratory apparatus. The mucous lining of the nose contains the most intricate and the most delicately sensitive nervous organization of any portion of the respiratory tract. We should naturally, then, expect it to be a very frequent source of reflex phenomena.

Probably the first writer to call attention to the causative relationship between nasal reflex and a morbid condition at a distant part of the body was Voltolini, who in 1872 reported a case of spasmodic asthma, dependent on the existence of nasal polypus, which was cured by the removal of the growth. This observation has been verified by so large a number of writers since then that the connection between the two diseases cannot well be questioned, even though in some instances the asthmatic symptoms may persist after the removal of the polypi. The general interest of medical men in this subject was first excited when Hack published the series of papers in the *Wiener Medizinische Wochenschrift*, 1882-'83, out of which grew his well known monograph. He reported a large number of nasal reflexes, covering a wide field, as follows: gastralgia and dyspepsia; cardiac palpitation; transitory and circumscribed oedemas; salivation; neuralgia; cephalalgia; scotoma; photophobia; vertigo; agoraphobia, and exophthalmic goitre. Hack declared these affections were due to various forms of intranasal disease, although the large majority were dependent upon hypertrophy or chronic hyperaemia of the nasal membrane. He further made the assertion that sneezing, watery discharge with obstruction alternating from one side to the other, constitute conditions which indicate that the turbinated bodies are the source of reflex phenomena, if such exist. These momentous observations of Hack were followed up during the past score of years by innumerable workers in this field, who have reported a great variety of such reflex diseases. While many exaggerated and unsubstantiated conclusions have been reached, and the *post hoc ergo propter hoc* argument has not always held good, it is an admitted fact today that many annoying and intractable diseases are brought about primarily by some morbid condition in the nose. But in attempting to explain these phenomena, rather vague and indefinite theories have been advanced, quite as obscure as the reflexes themselves. It would carry me too far to enumerate them in detail. Suffice it to say that it is now generally conceded that the condition in the nose which most frequently causes reflex action is hyperaemia rather than hypertrophy. This is explained by the fact that hyperaemia usually occurs in patients of a decidedly neurotic disposition, for extreme congestion of the blood vessels only occurs as a result of vaso-motor paralysis or paresis, whereas simple hypertrophic changes, being the result of inflammation, occur purely as a local disease. It is also agreed, as first stated by John Mackenzie, that "where complete atrophy of the turbinated structures exists, as, for example, in ozaena, reflex action is not present, nor can it be induced by artificial stimulation. On the other hand, there has not been general agreement as to the location of definite areas in the nasal mucous membrane, the irritation of which is responsible for definite reflex phenomena. From my own observation I believe that there are such areas, and that while it is not always possible, especially in marked nasal obstruction, to find the exact points of reflex irritation, it is frequently feasible to located responsible circumscribed areas, when by positive proof stimulation of them is followed by increased symptoms, and when, by negative proof, the anaesthetic and contracting effects of cocaine and adrenalin are followed by the abeyance of these same symptoms. Thus there are different specifically sensitive spots in the nose. Along the upper turbinated and upper surface of the middle turbinated bodies we can find the sneezing spots, which have so much to do with the production of hay fever. Several years ago I reported to this society a series of cases of chronic cough which proved to be of reflex origin, as they were

finally cured by reducing the intranasal pressure upon certain spots along the posterior surfaces of the middle and lower turbinated bodies, which I would designate "coughing spots." That there is a relationship between the nose and the genital organs has been recognized for some time, but it was Fliess who in 1897 first drew attention to certain points in the nasal mucosa which he termed "genital spots." These are the tuberculum septi and the anterior portion of the inferior turbinate in either side of the nose. At menstruation these swell, bleed easily, are sensitive to the touch of a probe and are slightly cyanotic. Fliess has noted during labor a swelling of the erectile tissue of the nose at each uterine contraction. He determined the localization of these genital spots by experimenting with cocaine. After applying a 20 per cent solution of the drug to the above mentioned areas he found that the pains in the back and abdomen ceased in from five to eight minutes and did not return until the effect of the cocaine wore off. If only turbinates were touched the headache ceased, but not the abdominal pain. If only one side was treated the pain on the opposite side of the abdomen was relieved. Similar results have been obtained with adrenalin. Some time ago a young woman came to me with an acute coryza and naturally a very much obstructed nose. After opening up the nostrils with a mixture of cocaine and adrenalin she made the unsolicited confession that this was the second day of her menstrual period, and that now her backache and abdominal pain had disappeared as by a charm.

In the *Journal of the American Medical Association* of last January 3d appeared an article by the New York rhinologist, Emil Mayer, on "The Intranasal Treatment of Dysmenorrhoea," with a report of ninety-three cases. Although many of you have doubtless read it, the splendid results achieved, the importance of the matter and similar experiences in my own practice have led me to present this subject to you tonight.

In the fall of 1910 Mayer entered upon a careful and systematic study of the nasal treatment for dysmenorrhoea. In conjunction with several noted gynecologists the absence of uterine disease as a causal factor was ascertained. In some instances all the well known methods of surgical intervention, dilatation, curettage, etc., had been unsuccessful. Concise histories were taken as to the conditions existing, whether pre-menstrual, during menstruation or post-menstrual; by far the greater number of patients having pre-menstrual headaches and nausea from one to two weeks before the period, to be followed by abdominal pains during the first two days, often of so severe a nature as to compel them to go to bed, losing at least two days each month. Some of these had a fortnight of reasonable comfort, when their sufferings bgean again. While a nasal examination revealed in a few instances marked stenosis from deflected septa, hypertrophy of the turbinates, etc., the greater number of cases showed no stenosis whatsoever, but there was noted a decided tumefaction and engorgement about these "genital spots." When these patients received local applications of cocain to the sensitive spots the relief occasioned was often truly wonderful. As Mayer says:

"The bald recital of pain, treatment and relief tells so little. When we recall the extreme pallor of one of these sufferers as she slowly dragged her way to the office for treatment, her firmly compressed lips and utter weariness, and then within a few minutes after a local application to her nose, how her color came back, her breathing was free and she went about her duties instead of to bed as usual, we feel that we have earned her gratitude."

After proving the reflex connection by cocain experimentation, the treatment was taken up between the periods by using the galvanocautery or the trichloracetic acid. The results obtained by the latter were so satisfactory and permanent and the treatment so free from the danger of forming synecheae that in all the later cases the patients were treated with trichloracetic acid. The slough that forms disappears in about five days, and another application may be made; four applications were made between periods. Reports were requested at the next three dates of menstruation. Of the ninety-three patients whose histories are given by Mayer no report was received from twelve, leaving a total of eighty-one cases reported on. Of these no relief was obtained in nineteen, fourteen were im-

proved and forty-eight were cured—a cure of 60 per cent, or a total of 75 per cent benefited.

I herewith desire to report briefly the histories of four cases coming under my own observation:

1. C. L. Single. Twenty-two years of age. Consulted me on account of severe sneezing spells, coming on at irregular intervals, but having nothing to do with hay fever. I found the lower turbinated bodies in a boggy, congested condition, producing nasal obstruction, and—after shrinking them—also some hypertrophy of the anterior portions of the middle turbinates. Treatment of the latter was begun, as the source of the sneezing trouble was found to be there. She began to improve, but after several weeks I noticd at one of her visits that the anterior ends of the lower turbinates were much engorged. After shrinking them she confessed that this was the time of her menstruation, which was always accompanied with much backache and abdominal pain, but that at the present moment she felt much relieved. During the following month I applied the trichloracetic acid four times to the genital spots in both nostrils, and she passed her next period with much more comfort. The applications were repeated twice after that, and for the past several months she has been virtually free from pain.

G. B. Thirty-two years. Married. Came for the alleviation of an obstruction to breathing in the right nostril. I found a septal spur and removed it. She also complained of severe pains in the lower abdomen for four days previous and bearing-down pains during her menstruation for two or three days. Treatment: Four applications of trichloracetic acid to both sides, and as a result very little pain at the next period.

3. J. W. A. Twenty-six years. Married. Came with the complaint of extreme headaches, which were almost completely relieved by correcting refractive errors of the eyes. The headaches were always worse during the days of menstruation, to which were added backache and abdominal suffering. When I saw her first her nose seemed in good condition, but she reported considerable stuffy feeling in both nostrils at the time of menstruation. Treatment: Three applications to the nasal genital spots, and since then I have received a report of entire cessation of pain at the last period.

4. A. W. Seventeen years. Single. Consulted me primarily for pain in ear, resulting from bad cold in head. This soon cleared up under treatment; but she stated having severe pains two or three days before and during entire menstrual period of three days. Treatment: Trichloracetic acid applied five times, with the result of no further distress during the last two months.

From this—so far rather limited—experience I fully agree with Dr. Mayer's conclusions:

1. Permanent relief is obtainable by intranasal treatment of menstrual pains (not the result of local uterine disease) in from 50 to 75 per cent of the cases.

2. Trichloracetic acid applied to the genital spots four times at intervals between menstrual periods is usually sufficient to obtain lasting results.

3. It affords an additional field of usefulness to our therapeutics.

To this I would add that every medical practitioner should take cognizance of these facts. In his family practice he is often consulted by young women for distressing symptoms during menstruation. Most women accept some pain at menstruation as a matter of course, and it is only after the suffering becomes unbearable that the physician is consulted. Therefore their relief without drugs, operation and uterine treatment by a few applications to the nose adds materially to their comfort and joy of living.

THE SURGICAL TREATMENT OF NEPHRITIS.

J. E. Cannaday, M.D., Charleston, W. Va.

For a number of years various surgeons had noted that sometimes albuminuria would lessen and disappear after surgical operations had been done on the kidneys.

Dr. George M. Edebohls had noted this, and in the year 1901 conceived the idea that the removal of the kidney capsule would be beneficial in the treatment of nephritis. His theory was that the tension would be relieved and the new capsule which formed around the kidney might prove to be more vascular than the natural capsule, and bring about a better circulation in the kidney He reasoned by anology from the beneficial effects of surgical treatment of cirrhosis of the liver.

Edebohls was a man of strong and aggressive personality. He advocated the decapsulation operation in many addresses and before the various medical and surgical societies of this country. He also wrote a book on this subject in which he reported more than 70 cases that he had treated in this manner. He claimed 14% of cases cured. However, the time of operation on all of these cases was comparatively recent and not by any means sufficiently long to enable him to tell definite-

ly whether these cases were really cured or not.

Rovsing of Copenhagen about the same time stated that while bacterial nephritis and certain forms of toxic nephritis were apparently benefited and even cured by operation, he also found by careful observation in a large number of cases that true Bright's disease was never cured by it or any other form of operation.

Decapsulation or almost any other operation performed on the kidney will relieve a congested kidney and give relief at least temporarily from the urgent symptoms caused by the before mentioned congestion.

The present day opinion seems to be that this operation was the fad of an enthusiast and when Edebohls died his operation died with him. Both during the time Edebohls lived and since his death authoritative and observing urologists in their writings have virtually mentioned this operation only to condemn it. The new capsule that is formed is far more dense than the old one and tends to contract the kidney by the formation of fibrous or scar tissue around it.

As I have said, the decapusulation operation is a dead issue in so far as it applies to the treatment of nephritis. It has been abandoned and not only the theories but even the statistics of its promulgators have been generally discredited. To illustrate the utter lack of interest in this method of treatment I find on looking through the medical and surgical indexes that there has been only one article published during the last year on the subject of surgical treatment of nephritis.

For the benefit of those who may be interested in this line of work from the standpoint of history or reminiscence I quote a few paragraphs from Keyes and also from Guiteras.

Edebohls' Operation.

The method of Edebohls is the one now almost universally employed. The operation was performed by Edebohls through a vertical incision, but the oblique incision may be employed. The fascia is then incised and pulled well up into the wound, the fat separated from the kidney before and behind and carefully excised, leaving only the fascial capsule surrounding the kidney.

The kidney is then decapsulated as follows: While it is held in the wound a small nick is made in the capsule in the median line the lower pole. A grooved director is passed through this incision between the capsule and the kidney and upon it the capsule is slit from one pole to the other along the convex border. Each edge of this incision in the capsule is then freed from the surface of the kidney by blunt dissection, which is carried half way down the hilum.

Two suspension sutures are then placed through the capsule at its point of reflection from the kidney, without penetrating the kidney tissue. The kidney is then replaced in the loin and, if necessary a little separation is made of the tissue at the upper end of the kidney recess, in order to permit it to pass freely up under the ribs. Either before or after the kidney is replaced the pelvis and ureter are carefully inspected to see that they are not compressed or kinked by adhesion to the lower pole of the kidney. The suspension sutures attached to the kidney capsule are then passed through appropriate portions of the parietal muscles and tied.

According to the original Edebohls method the sutures were of silkworm gut and were carried up through the skin of the loins to be cut and withdrawn after healing had taken place, but it seems preferable to employ chromic gut and to bury the sutures.

Edebohls, in operating on movable kidneys by partially decapsulating the organs and fastening them to the posterior abdominal wall, noticed, in cases with this variety of urine which closely resembled that of interstitial nephritis, that the polyuria, casts and albumin gradually disappeared or diminished. He therefore reasoned that if people with movable kidney passed the same urine as patients with interstitial nephritis, movable kidney was the cause of interstitial nephritis, and furthermore if the interstitial nephritis associated with movable kidney was cured by partial decapsulation, then any case of chronic nephritis could be cured by decapsulation, as it gave the kidneys a chance to form a collateral circulation with the abdominal wall or with the fatty capsule. This was the line of reasoning that led him to recommend total decapsulation of

the kidney as an operation for cure of chronic Bright's disease.

Renal Decapsulation.

I shall say a few words regarding renal decapsulation, as I have considered it in the surgical treatment of chronic nephritis, but it is not a procedure to be recommended, as my experience has shown me that it is harmful rather than beneficial.

The steps of freeing the kidney are the same as those described under nephropexy. The organ is decapsulated in the same manner, excepting that it is drawn back on either side to the hilum, after which the entire capsula propria is either cut away by scissors or else it is rolled up around the pedicle and left there. The decorticated kidney is then replaced in its fatty capsule, from which it is supposed to obtain an additional supply of blood through the extension of blood vessels from this capsule into the substance of the kidney. Results have shown that the blood supply received from the fatty capsule does not increase the circulation of the kidney and that a new capsule propria forms which compresses the organ much tighter than did the original one. The operation has now but few supporters either in this country or in Europe.

Capital City Bank Bldg.

PITUITRIN DISPLACING FORCEPS.

Gilman R. Davis, M.D.,
MacDonald, W. Va.

(Read at Annual Meeting of State Medical Association, May, 1914.)

I am only too glad to speak concerning a remedy already proven of inestimable value (though not fully understood and perfected) to be used in cases of parturition where forceps were in most cases formerly employed. Forceps are artificial, not nature's method of bringing a human being into the world, and should never be used until all other means to deliver the child are exhausted, compatible of course with the life as well as the future health of mother and child.

Applying forceps because the physician is very busy and must hurry to other cases, to collect double fee, to show off "to the gallery," we all know does occur, but I hope for the honor of the profession these cases are rare.

Now, when we have a remedy that will obviate all shock to mother and possible injury to child's head, possible infection and in case of laceration (occurring in nearly all instrumental cases), leaving non-elastic tissue in scar substance, with strong probability of repetition of laceration in all subsequent labors, saving the poor woman many hours and sometimes days of suffering, why not use this remedy—pituitrin?

I consider it a perfect Godsend. I know it has in my own experience rendered the use of forceps entirely unnecessary in five or six cases the past year

Without pituitrin I would have used forceps in all these cases.

Pituitrin is an extract of the posterior or infundibular portion of the pituitary body. It is a small, oval, very vascular, reddish gray mass, weighing from five to ten grains, resting on the pituitary fossa or sella turcica of superior surface of sphenoid bone and is divided into an anterior and posterior lobe.

The physiologic role of this gland is not yet thoroughly established, but it is positively known that the anterior lobe is indispensable for maintenance of life, while animals have survived the removal of the posterior lobe.

The actions of extracts of anterior and posterior lobes are directly opposed to each other. Pituitrin is made from the rior lobe only.

Falta, by injecting a dose of anterior lobe into a dog, brought its blood pressure to zero, and when heart's action and respiration ceased a dose of 20 c.c. of pituitrin quickly caused the heart to resume its action and brought the blood pressure to normal. An extract of the entire gland would be wholly irrational.

There is a peculiar feature of this remedy that has not as yet been explained. It is absolutely powerless until os is fully dilated and head commenced to descend. This, thank God, makes it entirely useless to induce abortion in any stage of pregnancy. Was it otherwise criminal abortion would be made simple and easy.

But "as the best proof of the pudding is the eating it," allow me to present the following verifications of its success by re-

porting a few cases from personal experience in its use:

January 25, 1914, Mrs. C. (colored), 7th para, called 7 P. M. Been in labor six hours, she told me.

"I am always a couple of days in labor." Found os fully dilated. Pains weak and five minutes apart.

Gave pituitrin 7:30 P. M. Seven and one-half-pound girl born 8 P. M. She also said:

"I flood terribly every time I have a baby."

As pituitrin is an absolute preventive of post-partum hemorrhage, she was spared that terrible experience in this case.

February 25, 1914, Mrs. V., third para. In both previous labors was three and four days in labor. Second labor terminated with forceps delivery. This is my first experience with her.

She is a strong healthy woman of 26 years, well formed and developed. Was called at 5 P. M. Pains 10 minutes apart and weak. No dilation of os.

Told husband to call me again when she is in full labor.

Was called 11:30 P. M. Found os dilated ½ inch, pains of average strength and five minutes apart. Knowing her past history, I at once put into execution a plan I had laid out.

I commenced a systematic dilatation of os, using one and sometimes two fingers, giving her numerous intervals of rest.

At 3:15 A. M. os fully dilated and head descended one inch.

Administered pituitrin 3:15 A. M. Pains increased in force and frequency in a few minutes. In ten minutes were violent and prolonged. The last five minutes almost continuous. An 8½-pound girl was born at 4 A. M., exactly three-quarters of an hour after pituitrin was administered. The mother, husband and nurse were simply astounded at the result. She was none the worse for the violent efforts and made a normal recovery. She was also subject to post-partum haemorrhage, which, of course, did not occur after pituitrin. What a contrast to her two previous deliveries, one three and the other four days. What a victory!

I want to say a few words here on dilating the os. I have for a great many years in making digital examination of women in full labor, when the os is closed or only slightly dilated, commenced a regular dilatation with one and at times with two fingers. It opens the os and brings on strong expulsive pains.

I have frequently attended women (before discovery of pituitrin) who would tell me:

"Oh, doctor, I am in for another three days siege. I always do so."

I most invariably terminated the labor in from three to six hours by dilating os every 15 to 30 minutes. Some call this "bad obstetrics." "You might infect them," but when I thoroughly sterilize my hand, and vulva, etc., of woman and dilate I have instead of several days a labor of a few hours and normal conditions following it, and I am proud to say I have yet to have my first case of puerperal sepsis, as pituitrin will act only when os is fully dilated. When I attend a case with previous history of prolonged labor I will dilate that os, then give pituitrin and I have always had the happiest results. I shall not take time to report any more cases in detail, but will say that four of my cases had history of previous long and slow labors, and in all of them pituitrin closed the scene in from one-half to one hour and no bad results, and I used dilatation in every case but one. I have used it in fourteen cases, partially failed in one and made complete failure in one.

I speak of this that you may profit by my failure. In the first case the pains after six hours of labor completely stopped. A dose of pituitrin started them almost immediately and for ten minutes were rapid and hard, then stopped and quite suddenly.

I gave second dose and they at once started as before, were strong for ten minutes, then continued slowly for two hours until delivery. Patient refused a third dose. The next case I used it on was two months later (in July, 1913), a primipara, pains not strong or effective, head well down, patient becoming exhausted. Gave two doses, one-half hour apart, with no effect whatever. I did not think the case warranted use of forceps, so let it terminate of its own accord. Our mutual friend, Dan Williams, called soon after this, and I reported my partial and total failures to him. He compared numbers on my box of pituitrin with his price list

and said, "Why, this is no account; it is over one year old. We find it is inert after one year."

Bear this in mind. Do not purchase boxes of over six ampules and order fresh box direct from house. It is contraindicated in cases with high blood pressure, i. e., nephritis, cardiac complications with goitre, arteriosclerosis and cardiac weakness. As the blood pressure is low in collapse and shock and in phthisis pulmonaeis its use is fully indicated in these conditions.

Pituitrin is far superior to ergot in postpartum hemorrhage, its action being almost immediate and contractions intense and prolonged.

I will add, by way of parenthesis, as a therapeutic remedy it has relieved seventy-five per cent of cases of anuria and dysuria following labor and gynecological operations in the Vienna General Polyclinic.

It is also frequently a valuable substitute for catheterization. It is a good prophylaxis for hemorrhage in Caesarian section.

Its use, of course, does not apply in cases requiring podalic version and other manipulative measures; where there is physical obstruction or where operative measures are required, but let me strongly advise you all in cases where labor is slow and tedious, pains short and ineffectual, the poor woman is simply worn out, to use a hypodermic injection of 1 c.c. of pituitrin and you will earn the everlasting gratitude of the patient, and her friends will never forget the success attending your actions in all similar subsequent cases.

ALCOHOLISM.

R. M. McMillen, M.D., Wheeling, W. Va.

(Read by title before the West Virginia State Medical Association.)

Alcoholism is pandemic, affecting over two million persons in the United States, of whom three hundred thousand die every year.

"Alcoholism is the morbid result of excessive or prolonged use of alcoholic liquors." (Gould.)

"Acute alcoholism is the condition known as inebriety, or drunkenness." (Tyson.)

Objection has been raised to calling alcoholism a disease, but Osler frequently refers to delirium tremens as a disease, and says the latter is only an incident in the history of chronic alcoholism.

Acute alcoholism is manifested by muscular in-coordination, mental disturbance, sometimes maniacal, and if a large quantity has been taken, by narcosis and sometimes by death. These influences are caused by the paralyzing effects of alcohol on the nervous system.

The individual has a flushed face and a full pulse. The temperature is usually below normal, especially if the person is exposed to cold. Patient unconscious but can be aroused to some extent, so much so that he will mutter. The breath has an alcoholic odor and the pupils are usually dilated. Great care should be taken not to confound this stupor with uremic coma, diabetic coma, concussion of the brain, opium or chloral poisoning and asphyxiation. The patient should have the benefit of the doubt and be taken to a hospital and receive careful attention. The urine should be examined especially for albumin, sugar and casts.

For acute maniacal alcoholism, if the heart action is good, give one-eighth or one-sixth grain of apomorphin hypodermically to produce vomiting. In case of stupor wash out the stomach and apply heat to the extremities. Although the nervous system especially suffers in chronic alcoholism, there is more or less degeneration of all the tissues.

"One hundred and twenty-five consecutive autopsies of alcoholics made at Bellevue Hospital showed not one normal heart." (Dr. Mills.)

"It is estimated that nearly one-half of the young men of Germany between the ages of eighteen and twenty-two are incapable of bearing arms, the prevalence of heart disease having increased among them by three hundred per cent within the last twenty years. Beer drinking is considered one of the principal causes of this degeneracy." (Dr. Kress.)

"It is the moderate drinker whose arteries grow less elastic and more brittle; his are the chances of apoplexy and consequent infirmity." (Dr. Aiken.)

The heart and blood vessels are not

only affected by alcoholism but the blood itself suffers. The capacity of the red corpuscles to carry oxygen is impaired and the leukocytes become hard and lose their phagocytic action. Long continued alcoholism causes cirrhosis of the liver, hypermia of the kidneys, catarrh of the stomach and conjunctiva, and the characteristic blossom on the nose. Muscular action becomes slowed and weakened. The individual becomes inactive, irritable, contentious, forgetful, irresponsible, irresponsive to good impressions, and we have moral degeneration as well as physical and mental.

Chronic alcoholism should be treated by at least two years' detention at a well regulated reformatory farm. Short detention at work-house and jail instead of doing good hardens the individual. He feels disgraced and loses self-respect.

"Delirium tremens is one of the effects of alcoholic poisoning of the nervous system, and appears as a nerve explosion in certain nerve conditions, whether the drinking subject persists in or suddenly discontinues drinking." (Dr. Kerr Gordon.)

Anything that further depresses the system in chronic alcoholism may bring on an attack. An insufficient amount of food during heavy drinking, shock from an accident, fright, any acute inflammation and especially pneumonia.

His "eyes behold strange things and his heart utters perverse things." He sees snakes, rats and mice in his room and fancies they are crawling over him. The writer had one patient who said he could see great columns of soldiers marching before him. The eyes have a peculiar staring appearance. There is much trembling; extremities are usually cold and blue; tongue coated white and when protruded, tremulous. The patient has fever and is unable to sleep. Needs to be watched lest he jump out of the window and escape.

As to the treatment of delirium tremens, I have obtained the best results from the use of 10 minims of the tincture of nux vomica and 1 oz. of infusion of gentian, repeated every three hours. The infusion of gentian should be made with heat and without alcohol, according to the old formula. I have had this to quiet patients when other remedies had failed. Hot broths or milk should be given every three hours. Cool sponging also quiets and induces sleep.

Investigation of the past confirms the view that "alcohol acts as a poison on all living protoplasm, in weak solutions, irritating it; in strong, paralyzing it; and in stronger, destroying it" (Prof. Kassowitz), but it has a selective action on the nervous system, "lowering the susceptibility of the nerve protoplasm" so that larger and larger quantities are required to satisfy the ever-increasing thirst that it produces, while all the time the will power is becoming weaker and the judgment more and more impaired. This deceptive and seductive action goes on until it causes a mania for narcotism or intoxication.

In Belgium this physical disease, or mental unsoundness, or dipsomania, called narcomania by the late Dr. Kerr, of London, is regarded as a variety of insanity.

Alcohol paralyzes the vaso-motor nerves and causes dilation of the capillaries and veins and bleeds one, as it were, into his own veins. This accounts for the cyanosis of the chronic alcoholic as noted by his purple lips and blue, cold hands.

"The nervous system has been divided into two departments, one the psychic department, with the conscious convoluted cerebrum as its center; and the other, the sub-psychic department, with those centers that control functions of internal organs as its subconscious center."

"The psychic department relates to the outside of man and adjusts the whole man to his environments. The psychic department carries the higher grade of faculty called consciousness, of which feeling is a part. Coming to the psychic center from all parts of the body, are afferent nerve lines, some bearing tactile sensation, and others bearing comfort or discomfort from internal organs and structures. If these nerve lines are dulled by some drug, as alcohol, opium, chloroform, ether, etc., the person is comfortable when no discomforting action is brought to the receiving tracts of the cerebrum." (Dr. Cearcy.)

The administration of these drugs will dull, obtund, or entirely suspend their faculty or function of carrying and receiving sensation. The most delicate struc-

ture of the psychic centers are stopped and if too much is given we stop also the function of the subpsychic centers and cause death.

This helps to answer the question, WHY DO MEN DRINK? Because it makes them feel good, or more correctly speaking, they are unable to feel bad.

"Alcohol has the power to cause the nervous system to lie, to make one feel warm when he is cold, to make one feel good when he is not good, and by the same whim, bring a difference in the morning, a dark-brown taste, a subjective wretchedness, which is as unreal as the supposed joy which it inevitably follows. The nervous system once taught to lie, fails afterwards to record the truth." (Pres. Jordan, Stanford Junior University.)

Prof. Berkley of Johns Hopkins University believes that ethyl alcohol is perhaps less deleterious to the tissues than the blended whiskies of commerce.

One point of considerable interest in Dr. Julius Friedenwald's experiments on rabbits is, that the resistance of several animals to alcoholic poison is not in proportion to their weight, but to some inherent property in their tissues. This will help us to understand why some old topers have continued to live to be sixty seventy or eighty years old, while thousands have succumbed to the poison who have not consumed one-half the amount of alcohol. This inherent property in the tissues of the old toper to resist the poison of alcohol, not being understood, non-medical men and even some physicians will point to them and say that if alcohol kills, that man would have been dead long ago.

"The importance of alcoholism as a direct, underlying cause of individual, social and national degeneracy, cannot be overestimated." (Dr. Mason.)

The baneful effects of alcoholism is not confined to the individual but is handed down to his posterity. "Children of parents who use alcohol differ very widely from others in retarded development and degeneration, both mental and physical. They may not always drink spirits but they are neurotics and defectives in many ways. Vitality is diminished; they are less able to resist disease; longevity is diminished and predispositions to all forms of insanity and nerve diseases are prominent" (Dr. Giosoner), causing the race to deteriorate from alcoholic ancestors.

Dr. MacNichol, of New York, found that among 6,624 children of drinking parents, fifty-three percent were dullards.

Bournville found, that of two thousand five hundred and fifty-four idiotic and epileptic children, two hundred and thirty-five, or nine and two-tenths percent were certainly conceived during intoxication, and eighty-six, or three and three-tenths percent were apparently so conceived.

Naecke writes, that in some countries the congenital epileptics or imbeciles are usually conceived at the time of new wine. "It is held as a rule in a wine country, that a poor school year comes seven years after a good wine year." Dr. Hoppe found that of eighty-six imbeciles of Canton of Granbuenden, one-half were conceived within a period of fourteen years, which proved to be a period of drinking.

"In Switzerland, three-fourths of the idiotic and epileptic population are descendants from alcoholic parents." (Dr. Aiken.)

Prof. Quackenbos, of Columbia University, says: "Every debauch, if not every drink, means a partial functional paralysis of blood vessel walls somewhere or everywhere in the body, a debauched circulation, a diminished absorption of nutrient substances and a lower sense tone; and that the common whiskey of trade is the death river setting in resistless current toward murder, robbery, misuse of women, paresis and the asylum."

Dr. Mabon shows that about thirty-three percent of the cases of insanity are due directly to alcoholism, and if those are also counted in which alcoholism only acted indirectly the proportion would be increased to nearly sixty-six per cent of the male patients.

Alcoholists have a great tendency to commit suicide.

"A long continued excess in liquor leads to increased misery, domestic quarrels, dislike for work, abnormal irritability of mood with disposition to melancholic depression, to ideas of jealousy and persecution—finally mental and moral qualities as well as the physical health suffer." (Dr. Hoisholdt.)

As to the prevention of procreation of

degenerates our force of physicians are divided into three classes. The most aggressive force is dressed in the garb of a surgeon and equipped with a sharp knife ready to sterilize the insane and criminal degenerates caused by alcoholism, crying with a Patrick Henry voice—We must sterilize; we must sterilize, or we will perish by our national degeneracy.

At the other end of the line the faithful few who have been doing all they can to prevent alcoholism not only by precept but by example.

Between these two forces is the great body of physicians who have given the subject but little concern, as though it were a light matter. Their influence has either been negative or, in some cases, they have actually helped to cause alcoholism by indiscriminately advising the use of alcohol, and on social occasions imbibing it themselves. They have allowed the non-medical men to go before them and proclaim to the world the baneful effects of alcohol on the human body.

If all the physicians in this country during the past twenty years had advised against the use of alcoholic beverages we believe that multiplied thousands of lives would have been saved.

CANCER OF BREAST.

Editor West Virginia Medical Journal:

The following case is reported, not because it is especially rare or of unusual interest, but to show the disastrous result of improper treatment by a man entirely ignorant of medicine and surgery in a case which would probably have resulted favorably had the advice of an educated physician been taken.

Mrs. "C.," age 36, white, married, mother of one child, no serious sickness since childhood, good family history, no case of cancer in the family. On May 30, 1912, while driving home, her horse became frightened and while she was standing in front of him she was struck on the left breast by one of the buggy shafts. The injury did not at the time cause any pain of the breast or arm. On the next day the breast was somewhat sore, but was treated with liniments and other domestic remedies, so that two days later the patient was so improved that she could go about her work, and the soreness en-

tirely cleared up in four days. Nothing more was noticed until August, 1912, when a small tumor could be detected in the breast.

At this time she was advised by her family physician to have the entire breast removed. This she refused to do and was caught by some quack in Marietta, Ohio, who is not a physician at all, but claims to cure cancer with "blood medicines and salve." He held out to this patient that if she could "draw this tumor to a head she would be all right." She did succeed in getting it to a head, but what I would call a "cauliflower head," which is now about seven inches in diameter.

The patient is, of course, beyond the reach of any treatment other than such as will palliate her suffering and make her as comfortable as possible.

Respectfully yours,

W. H. YOUNG,
Sistersville, W. Va.

Vein-to-vein transfusion possesses over the artery-to-vein operation at least the advantage of sparing the donor a conspicuous scar and the loss of a large artery. With a tourniquet lightly applied to his arm the venous pressure may be made abundant, and the blood flow correspondingly rapid.—American Journal of Surgery.

Selections.

THE RATIONAL TREATMENT OF THE HEMORRHAGIC AFFECTIONS OF CHILDREN.*

Le Grand Kerr, M.D., Brooklyn, N. Y.

It was always a matter of deep concern to the writer that the literature upon the hemorrhagic diseases of children showed that methods of treatment advised by one were unequivocally condemned by others and no one measure escaped this fate. This was partly due to the fact that hemorrhagic disease has been more or less of a mystery. As it still remains so, it is necessary for the writer to speak of hemorrhagic affections rather than hemorrhagic disease.

In most instances we are still dealing with a syndrome in which the chief feature is spontaneous hemorrhage, and with our present knowledge it is a symptom or symptoms with which we deal rather than a disease. For instance, it is the custom to divide purpura into several varieties, but a closer study of these seems to prove that it is not different diseases with which we deal, but different degrees of hemorrhage which are determined by the degree of toxicity rather than by its nature.

Of the agents commonly used practically all have been advocated with a warning. Calcium lactate, the most vaunted of all, is admittedly uncertain in its action. With arsenic goes the warning that it will probably disturb the digestive tract by irritation; with adrenalin used internally that its effect is more local than general; with gelatin solutions that if given by mouth their action is too slow and if used subcutaneously, even eight-hour boiling does not render it safe because, while the possible tetanus bacillus is destroyed, its toxins that do the harm are still active.

Thyroid extract, that socialist of the materia medica, whose administration was hoped to solve all of the unsettled problems of therapeutics, also had its day in the treatment of these hemorrhagic affections and was weighed in the balance and found wanting. There seemed at one time to be value in the suggestion that on account of its protein element ascitic fluid would prove of service. It is easily and quickly obtained and fifteen to thirty c.c. injected subcutaneously and repeated in twelve to twenty-four hours has given doubtful results; doubtful, because in a few instances there has been apparent benefit, while in the large proportion there has been little or none.

It is so self-evident that the administration of iron, ergot, alum, tannin, sulphuric acid and several other similar agents is advised with no clear appreciation of the conditions to be met that mere mention of the futility of this kind of treatment should be sufficient.

Of local agents there are several that control hemorrhage, and no matter what the internal medication, local measures should always be instituted. Capillary oozing may thus be controlled by a gauze pad saturated with a ten per cent solution of gelatin, a two per cent solution of calcium chloride or a one to one-thousand solution of adrenalin. Prolonged but gentle pressure and the actual cautery also have their place as local agents.

Local control is unsatisfactory except for immediate results. Control in one situation does not affect the underlying cause, and therefore one local hemorrhage follows another. Therapeutic efficiency demands something more than a control of local hemorrhage and the administration of some agent without a reasonable knowledge of what we are attempting to accomplish. What knowledge have we of these conditions?

With the exception of hemophilia, whose etiology remains uncertain, hemorrhagic affections of children are due largely to toxic substances which find their way into the circulation. While the particular offending agents still remain undiscovered, we are certain from the clinical and other evidences that these agents act not only upon the nervous system with consequent marked vasomotor disturbances, but in a direct manner upon the endothelial lining of the smaller blood vessels and there produce degenerative changes. As regards the blood, coagulability is seriously interfered with and the clot lacks the firm contraction of normal blood. This is particularly true of purpura. In those clinical syndromes, occurring in the new-born in which hemorrhage is the striking feature, infection has been most consistently assigned as the cause, and while

*American Medicine, June, 1913.

ordinary sepsis is the most common etiological factor in spontaneous hemorrhages in infants shortly after birth there are instances with non-septic and unknown causes. But in all, septic and non-septic, one feature is always prominent, and that is impaired coagulability of the blood.

It is evident then that in the rational management of this class of affections the primary objects are (1) to combat toxic elements which change the character of the blood; (2) to limit their effect upon the blood vessels (which is inevitable after a short period), and (3) to improve the coagulability of the blood. The first objects may be accomplished in time and are not urgent, but the last justifies no delay and in most instances is urgent.

There is no necessity for the writer to go into the details of treatment of the septic or other conditions which result in the presence of toxic substances in the blood; such treatment varies with individual cases. It must be clearly understood, however, that there are to the writer's mind two distinct propositions as regards the direct treatment of the circulatory changes taking place in hemorrhagic affections during childhood; one which concerns the blood vessel and the other the blood.

There are times when the hemorrhage has been prolonged enough or sufficient in amount to demand partial restoration of bulk if the vessels are to continue their work. This is the opportunity for a well-selected, timely and cautious administration of saline solution. Often this is used as a therapeutic measure whose value is overestimated and is applied more commonly as a routine measure than as a clearly indicated method based upon a physiological principle. The administration of saline solution, of stimulants and tonics to the circulation is not rational, unless we presuppose that the several blood forming organs are in reasonably good functioning condition. The question must always be considered: will the vessels withstand immediate, prolonged or vigorous stimulation? Unless we can answer this affirmatively, we may accomplish actual harm by this treatment. Using saline solution as a substitute for blood, we must be clear as to whether we need it as a liquid or a hemostatic agent. Whatever the pathology may prove to be, there is some serious fault with certain morphological elements in the blood and coagulation is therefore difficult. Saline still further dilutes these elements which are already too scarce and by its vigorous stimulation of the circulation tends to increase hemorrhage. In other words, there is great danger in increasing bulk at the expense of quality.

What we strive for in this class of cases is not blood as a fluid, but blood as a hemostatic agent. We do not even strive to rejuvenate any organ or tissue; there is no time for that. Primarily, our therapeutic aggressiveness is to as quickly and as safely as possible supply to the blood the elements in which it is lacking or which have become inefficient and while thus controlling immediate consequences give the blood making organs a chance to restore the normal balance.

The writer is assured that we possess two agents which will accomplish this: blood serum and whole blood. This is based upon a considerable clinical experience.

In the first cases in which this method was tried animal serum was used. In most instances a blank serum was administered, but occasionally other sera were used, as urgency left no choice. The results were uniformily satisfactory in that this method was sufficiently more prompt and certain in its results than all other measures that had been used. This difference in results was so consistently marked that it quickly superseded all other measures, except local treatment as an adjunct. The usual procedure was to administer ten to thirty c.c. and to repeat this every one, two or three days. These were the average but by no means the maximum doses. There was one troublesome feature; that was with the use of an animal serum, the patient frequently had to combat more or less severe serum reaction.

The use of human blood serum is more efficacious than animal sera and it should be used in preference. There is one point that needs emphasis; that the serum obtained from a near blood relation is of the greatest value with one exception, that exception being the use of whole blood from a blood relation, hypodermically or by transfusion. Transfusion is the ideal method.

While there are difficulties of technique in transfusion, most of its failures can be laid to the fact that there is not always a

clear understanding of the physiological principles involved or of its limitations in any given case. Transfusion or any other blood increasing measure does no good unless the blood making organs are capable of proper functionating.

When transfusion is not practical, whole blood may be used in a simple, immediate and most efficient manner. This is by withdrawal from a near blood relation and immediate injection into the child subcutaneously. It is a simple procedure to find the vein of the adult (the donor) and sufficient blood may be withdrawn quickly (usually five to ten c.c.) for immediate injection into the recipient (the child). If one has ever attempted to find the vein in a young child, he will at once appreciate the great difficulty, and therefore will understand why intravenous injection is practically impossible. The hunt for the vein takes so much time that the blood is rendered useless for injection. The procedures of withdrawal and injection must all be planned so that there is the least possible interval between them. The writer is more convinced than ever that the procedure he recommended (not originally) in a paper read before the Society of Internal Medicine, December, 1912, to-wit, the injection of whole blood (subcutaneously) in cases which are urgent and in which transfusion is impractical and the injection of human blood serum in the less urgent cases, is the most rational method of procedure. Both of these should be obtained from a near blood relation. Outside of the first immediate effect in which whole blood easily leads, there is apparently no therapeutic difference between whole blood and serum.

The writer would not leave you with the impression that all other details may be neglected, for the general management applicable to all forms of hemorrhagic disease in children must be carried out.

These are absolute rest of mind and body, protection against possible injury, the institution of adequate hygienic care, a harmless but sufficient diet and the treatment of the underlying condition, if it is discovered.

But in the treatment of the hemorrhagic affections of children first and prime consideration must be given to directly increasing blood coagulability by the administration of serum or of whole blood secured if possible from the nearest blood relation.

MEASURES FOR THE CONTROL OF SCARLET FEVER INFECTION.

For many years the view has been generally accepted by medical men that the desquamated particles of epiderm shed by a child convalescing from scarlet fever were the most active factors in spreading the disease. During the last decade, however, a number of writers have thrown doubt upon this belief, and some, who have had large opportunities for observation, have gone so far as to assert that the desquamating epiderm is devoid of this power. A question of this kind is of very great importance for obvious reasons. If the desquamated epiderm is not infectious in its nature the period of quarantine heretofore usually insisted upon can be materially shortened and much inconvenience and embarrassment avoided.

An interesting paper dealing with this subject is contributed to the *Medical Record* of February 15, 1913, by Mead. Summed up, the paper does not give us the definite and positive information which we would like to receive; that is to say, Dr. Mead is unable to conclude that the desquamations of scarlet fever are absolutely innocuous, but it is evident that the general trend of professional opinion is at least beginning to drift away from the old view toward the newer one. If the scales are not infectious, prolonged quarantine is not only unnecessary during the continuance of the desquamation, but there is little or no need for the employment of antiseptic oils or liniments or other applications, to the surface of the body with the idea of controlling or preventing infection. In all probability the small amount of antiseptic substances which can be combined with oils, or placed in lotions, without irritating the skin, prevent them from being materially efficacious if the desquamated particles really contain the contagion. On the other hand, if fatty or oil substances are employed the spread of the dry desquamated particles is very materially controlled by reason of the stickiness or oiliness of the application.

The great difficulty in deciding this point lies in the fact that the bacteriologist is as yet unable to surely isolate the micro-organism of this disease, and until it is isolated it is quite impossible by cultural methods and

the employment of antiseptics to reach definite conclusions. As illustrative of divergent views concerning this matter the article upon scarlet fever in Osler's "Modern Medicine" may be quoted to the effect that there is abundant clinical proof that the epidermic scales have the power of communicating disease, as opposed to the statement in Welch and Schamberg's book upon "Acute Contagious Diseases" that the infection must reside somewhere in the body apart from the cutaneous surface.

Whatever may be the ultimate conclusion of the profession in regard to this matter, there seems to be a universally accepted opinion to the effect that the nasopharyngeal discharge of patients convalescing from scarlet fever is essentially infectious, and it is becoming more and more evident that physicians should pay greater attention to the possibility of the infection being spread by nasal or pharyngeal secretion. In other words, any child convalescing from scarlet fever that has a persistent nasopharyngeal discharge is probably an active disseminator of the infection, and it is probably true that applications of medicinal substances more or less active as healing agents or an antiseptic should be applied to the nasal cavities. Thus, antiseptic sprays or simple sprays of normal saline solution may be advantageous. Oily sprays containing minute amounts of eucalyptol or menthol or other volatile oils like sassafras or cinnamon may perhaps be useful. Or, again, after the nasal chambers have been cleansed by a spray of normal saline and the pharynx has been similarly treated, a few drops of liquid albolene may be dropped into the nose, and this in turn followed by a few drops of a ten-per-cent solution of argyrol

Although we may not at this time be able to assert that the danger of infection through the skin is so slight as to be ignored, we believe we are correct in our belief that the danger from nasal discharges, or from an ear which is discharging, as a result of scarlet fever, is far greater.—Editorial in *Therapeutic Gazette.*

"There is no sense in our being shocked at the social evils that exist all about us, and that threaten our young girls, so long as we directly add to these evils by the shameless way we allow our daughters to dress."

SCIENCE AND THE AVERAGE DOCTOR.

Two eyes, one nose, two ears, one tongue and ten fingers, all controlled by one brain, used to be the equipment of the doctor. But the microscope and the X-ray brought in super-eyes; the stethoscope produced super-ears and chemistry became a super-tongue and a super-nose. Various appliances assume the role of super-fingers. Alas, there is no super-brain! And if there were, could it co-ordinate the work of the super-organs of special sense? Worse yet, could it co-ordinate the personal equations of the various super-doctors blessed with super-powers?

And this is not a comedy; it is a tragedy. The tragedy of modern science centers in the fact that man insists upon materializing his dreams. Men make gods of their vaulting ambitions and are not content to "rise on stepping stones of their own dead selves to higher things." Today our medical past is dead and we "let the dead past bury its dead" while we heedlessly hurry on to set up new shrines and erect new standards, neglectful of the old and over-confident in the new.

And "the stuff that dreams are made of" is hard to use in broad daylight. It is like grasping tools which lack handles to make "bricks without straw." The medical profession is sprouting wings faster than it is growing muscles to make the wings effective.

These remarks are prompted by contemporary advances. A few years ago Wright developed the opsonic index, a thoroughly correct concept with an exact technic. And it fell down; not because of any error in the method, but because it could not be performed by a machine and was dependent upon inexact man—man with his personal equation.

Wassermann has elaborated a scientifically correct reaction. Yet findings are inexact; another instance of personal equation and the limitations of the human senses and the errors in interpreting what they observe.

A noted surgeon developed "bloodless surgery" and very brilliantly applied it to the correction of congenital dislocation of the hip joint. And his work appeared as easy as does that of the skilled glass blower

—until after one had tried to duplicate the work of the bloodless surgeon or the glass blower.

Pottenger, who developed light-touch palpation, can outline the internal organs on the cadaver by a touch so light as hardly to indent the skin. Can the average doctor do this, and will he ever be able to do so? But it will do him good to *try*.

There is a chapter in the Bible which says: "By faith Abraham" did thus and so. "By faith Noah" did this and that. And it goes on to tell how a number of super-men did many wonderful things, "not having received the promises, but having seen them afar off, and were persuaded of them and embraced them." So it is with the scientist who has the vision of faith.

But what of the rest of us—average mortals to whom "faith without works is dead?" Few of us can be super-men, even if the age does expect it of the doctor.

And is there not a danger to be apprehended? Too much "miracle," too much super-science, too much of the intangible and reaching out after the tail feathers of the inscrutible is not making the medical profession as a whole one whit more effective; we are not curing more cases thereby.

Then cheer up, Dr. Average Man! Don't get discouraged because you can't, for the life of you, get the results the super-doctor claims to achieve, and sometimes really does—only sometimes. Just like you do by your methods—sometimes.—*Medical Council.*

ADOPTION OF A STANDARD NOMENCLATURE FOR ROENTGEN RAY WORK.

On the recommendation of the Committee on Nomenclature, the society adopted the following terms for use in connection with all work in which the Roentgen ray is the agent employed:

Roentgen: To be pronounced rent-gen.

Roentgen ray: A ray discovered and described by Wilhelm Konrad Roentgen.

Roentgenology: The study and practice of the Roentgen ray as applied to medical science.

Roentgenologist: One skilled in roentgenology.

Roentgenagram: The shadow picture produced by the Roentgen ray on a sensitized plate or film.

Roentgenagraph (verb): To make a roentgenogram.

Roentgenoscope: An apparatus for examination with the fluorescent screen excited by the Roentgen ray.

Roentgenoscopy: Examination by means of the roentgenoscope.

Roentgenagraphy: The art of making roentgenograms.

Roentgenize: To apply the Roentgen ray.

Roentgenization: Application of the Roentgen ray.

Roentgenism: Untoward effect of the Roentgen ray.

Roentgen diagnosis: Roentgen therapy; Roentgen dermatitis: These terms are self-explanatory.

The secretary was instructed to send a list of these terms and definitions to medical journals, medical publishers and lexicographers.

SUPPRESSION OF CONVULSION IN ECLAMPSIA.

In two cases Wallace tried the treatment advanced by Murray. The 25 per cent. solution of magnesium sulphate was employed after sterilization. The dose was regulated by the body-weight of the individual patient, 1 c.c. being allowed for every 25 pounds of body-weight. A rough estimation of weight had to be made from height and bulk. The needle was introduced in the middle line between the third and fourth lumbar spines. In each case after injection an interval of freedom from convulsions ensued. In one case seven fits occurred during the seven and a half hours preceding injection, none during the subsequent seven hours.

CANCER IN TAR WORKERS.

J. F. Schamberg, Philadelphia. The Journal of Cutaneous Diseases, December, 1910.

In an examination of about twenty men whose work in a large tar factory caused them to be besmeared with tar, Schamberg found four individuals showing evidences of beginning or well marked for cancer In the first place the dorsal surfaces of the hand, wrists and forearms of these patients were studded with "tar blackheads"—follicular keratoses. Besides these lesions, each of the patients presented one or more pea-size to bean-sized flat epithelial growths in the skin. One case that permitted of microscopical examination demonstrated a typical epithelioma.

Some of the other workers presented cutaneous lesions that appeared to be forerunners of epithelioma. "It would seem that the carcinomatous changes are prone to occur as the patients near the fifth decade of life."

An analysis of the scant literature of cases of cancer in paraffin and tar workers shows that in not a few instances the lesions occurred in the scrotum. Schamberg sees a close analogy between these cancers and the chimney-sweep cancer. He is under the impression that all these carcinomata are due to the activity of radioactive substances contained in coal and tar. An examination of a specimen of tar made by Mr. Kabakjian, of the University of Pennsylvania, shows the presence of a radioactive substance.—American Journal of Surgery.

The West Virginia Medical Journal

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Wheeling, W. Va., June, 1914.

THE JOURNAL issued on the first of each month..

Subscription, - - - - - - $1.00 per year
Single Copies, - - - - - - 15 cents

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Editorial

CEREBROSPINAL MENINGITIS: ITS MANAGEMENT.

Several counties in this state have experienced outbreaks of cerebrospinal meningitis during the past year. Charleston had thirty or more cases during the early spring and the mortality was quite large. Some of these cases occurred at the time the writer was on an official visit to that city, and he had the pleasant opportunity of attending a meeting of the County Medical Society and hearing the subject fully discussed. The cases seemed to have been promptly diagnosed and the antiserum of Flexner was very generally used.

Experience has taught that this serum, while not always successful in averting death, has very materially reduced the mortality, and when used early and the dose repeated several times the chance of recovery is three to four times as great as under the old treatment, while the recoveries are generally much more perfect, the patient not being left in a crippled condition.

As with many excellent remedies, this one has its drawbacks. That it is not without its dangers has been shown by a number of reliable reports. Alarming symptoms sometimes follow injections, and in some cases death has occurred so soon after the intra-spinal administration of the remedy that there is no room for doubt as to the cause of the fatal ending. Fatalities have been reported by Sophian, Litterer, Kramer and others in the *Journal of the American Medical Association* for 1912 and 1913. However, when we consider the large number of injections that have been made, the fatalities are extremely few. So long as such results are as rare as reports thus far made would indicate no physician would be justified in neglecting to use the remedy, since the dangers of the disease are so vastly greater than those to be anticipated from the serum. It is well, however, to learn what we can as to the causes of these untoward results which, like the death from an anesthetic administered to perform a life-saving operation, yet leave a most unpleasant impression on the mind and heart of the conscientious operator.

Several theories have been put forth to account for the unhappy occurrences occasionally observed after the injection of the serum. One of these is that anaphylaxis, as sometimes witnessed after the administration of diphtheritic antitoxin, is caused by the introduction into the spinal canal of foreign proteids; again, that the tricresol generally used for the preservation of the serum exerts a poisonous influence on the respiratory centers to which it is quickly carried. That increased pressure within the cranium from a too rapid or too free injection was early looked upon as a possible danger is shown by the following rule which, among others, was suggested by Flexner as long ago as 1908: "The quantity of antiserum should not exceed, for the present, thirty c.c. It is desirable * * * * to withdraw from the spinal canal at least as much fluid as the amount of the antiserum to be injected. The injection should be made slowly and carefully to avoid the symptoms due to increased pressure. This precaution should be exercised especially when the quantity

of fluid withdrawn is less than the amount of the antiserum injected."

A series of deaths occurred soon after the use of the antiserum in Cincinnati in 1913. These, Flexner thinks, can be explained more satisfactorily on the supposition "that they resulted from increased pressure than that they were examples of anaphylactic shock" (*Journal American Medical Association*, June, 1913). But Kramer, who personally observed several of these cases and has made a study of them, and who made a number of experiments to show the poisonous influence of the preservative content of the antiserum, as a result of his observations and experiments concludes that "serum containing 0.5 per cent tricresol cannot be safely injected into the subarachnoid space."

With this difference of opinion existing as to the true cause of these sudden deaths, Worth Hale of the United States Public Health Laboratory undertook a series of experiments which served to corroborate the view of Kramer as to the poisonous effects of tricresol. Hale concludes that "tricresol is responsible for the cases which present alarming symptoms and even death, and this conclusion seems all the more correct when one considers the difficulty with which alarming symptoms and death can be produced by an increase in the intracranial tension following the administration of serum free from preservative." But Hale is also of the opinion that death may result from increase in intracranial tension.

From the above considerations it seems highly desirable that a serum should be prepared with a preservative, if possible, free from poisonous action, and that whatever serum be used it should be injected by gravity rather than with a syringe, whose pressure cannot be so well regulated.

A word as to the sanitary management of epidemics of cerebrospinal meningitis may be permitted. Although it is generally conceded that the disease is not highly infectious, as shown by the rarity of duplicate cases in the same family, and by the fact, as stated by Kerley, that a case may exist in a children's hospital ward without other cases occurring, yet we would insist on the strict isolation of every case, with no one entering the room except the necessary attendants. A disinfecting solution should be frequently used in the throat and nose of patient, and, in brief, the same sanitary control should be exercised as in the case of diphtheria. By exercising these precautions we believe that we do all that can be done to prevent the spread of the disease, and to do less would render us subject to just criticism. S. L. J.

THE BLUEFIELD MEETING.

We had expected a full account of the annual meeting from a valued correspondent, but as it has not yet been received time is only allowed us to say that the meeting was one of the most enjoyable the Association has ever held. The members from the lower end of the state did certainly lay themselves out for the entertainment of the society. We hope great good may result from this meeting, which took us into a new territory and one of which we shall in the future look to with interest. Bluefield is "all right," and its doctors are in the advance guard.

OFFICERS, ATTENTION.

It is very important that the newly elected officers of the State Medical Association should be familiar with the following action of the society taken at the annual meeting of the association in 1912: "On motion of Dr. Linsz, seconded by Dr. Jepson, it was ordered that the term of office of all elective officers begin the first day of January following their election."

From the above it will be clear that Dr. Venning is President and Dr. Butt is Secretary of our State Association until January 1st, 1915. This will give the new President and the new Secretary over four months in which to arrange the program for next year's meeting at Huntington. Our long time worthy Secretary, Dr. Butt, has written us that he prefers that all matters concerning the program for business for 1915 shall be taken up with the new Secretary, Dr. T. Howard Anderson, Marysville, W. Va.

WANTED.

Copies of March and May Journals, 1914. We will be obliged to any who may be able to send us copies of these issues.

We have in our possession a paper entitled "Inflammation of the Nasal Accessory Sinuses." No name is attached and

the writer will please inform us as to his identity, since we have no record.

A letter from Dr. Martin H. Fisher, who was on the program for a paper at our recent meeting, announces that his absence was due to the sudden illness of his wife, who was stricken in Chicago and had to undergo an immediate surgical operation. We hope that the doctor may be with us next year.

State News

Under the able leadership of Dr. L. N. Yost, County Health Officer, Marion County Board of Health in April established a general clean-up week. Dr. Yost is one of our efficient County Health Officers, and his example may well be emulated by the officials of other counties.

* * *

The doctors in Harrison county are moving in the same direction. The sanitary administration of Clarksburg, it is reported, has been such a loose affair in the past that a determined effort is to be made by the Medical Society this year to have the sanitary laws enforced to the limit. For this purpose a permanent committee composed of Drs. Sloan, Cherry and Halterman have undertaken to procure from the city sufficient funds for the Board of Health and to draw up a code of rules and regulations. This is one other instance of physicians working unselfishly for the public good and against their own interests.

* * *

The Doddridge County Medical Society held a meeting on April 18th for reorganization. Four new members were admitted. This is encouraging.

* * *

Dr. O. E. Barker of Parkersburg has sailed for Europe and expects to spend a year in study abroad.

* * *

The Public Service Commission has appointed Dr. W. H. Sharp Medical Examiner for Parkersburg under the Employers' Liability Law.

* * *

The Parkersburg newspapers have promised to publish suitable excerpts from the Bulletins of the State Board of Health recently issued. We hope the other papers of the state will do likewise.

* * *

Removals.

Dr. L. H. Jarrett from Charleston to Gassaway.

Dr. H. C. Blair from Bower to Coalton.

Dr. J. S. Nedrow from Bruceton Mills, W. Va., to Clarington, Ohio.

Dr. J. H. Craft from McComas to Springdon.

Dr. E. W. Smoot from Madison, W. Va., to Oroville, Washington.

Society Proceedings

MINUTES OF THE FORTY-SEVENTH ANNUAL SESSION.

Of the West Virginia State Medical Association, Held in Bluefield, May 13, 14 and 15, 1914.

General session—Wednesday, May 13th, 10:20 a. m. Called to order by the President, Dr. Richard E. Venning.

Invocation by Rev. E. E. Wiley.

Address of welcome by Dr. J. Howard Anderson.

Address by Senator D. E. French.

President Venning then delivered his address (see page 395).

Drs. Henry, Anderson and Bloss were appointed a committee to consider the recommendations contained in the presidential address.

Adjourned.

Wednesday, 1:50 p. m.

The first paper to be read was that of Dr. Harry G. Steele of Bluefield—"Recognition of Different Periods of Gonorrhoea by the Microscope."

Discussed by Drs. Cherry and Arkin.

Dr. F. L. Hupp read a paper entitled "Chronic Intestinal Stasis."

Discussed by Drs. Henry, Anderson, Bloss, Hupp, Ogden, Kessler, Pepper, McQueen and Arkin.

Adjourned at 3:10 to witness first aid contest.

Surgical Section.

Called to order by the President, Dr. Venning, at 9:30 a. m. Thursday. Dr. T. K. Oates was elected to preside over the session. On motion of Dr. Butt, Dr. F. L. Hupp was elected chairman of this section for ensuing year.

Dr. J. Ross Hunter, the orator in surgery, read a paper on "The Incidence of Cancer."

"Metastatic Infections of Joints—Some Etiological Factors," was read by Dr. B. F. Peters.

Discussed by Drs. Cherry and Arkin.

Dr. S. S. Gale read a paper on "Spina Bifida, With Report of Cases."

"Skiagraphy and the Interpretation of the Negative" was read by Dr. Pepper.

This paper was discussed by Drs. Butt, Cannaday, Venning, Hupp and McDonald.

Adjourned.

Thursday Afternoon.

First paper was that of Dr. I. W. McDonald on "Treatment of Fractures of Long Bones."

Discussion opened by Dr. Babcock of Philadelphia. Dr. Babcock advised long incision in the skin in cases of comminuted fracture with much swelling. He also advised the injection of blood between bone ends in cases of non-union.

Dr. Hupp spoke of operative procedures; said surgeons seemed to be divided into three classes: those who do not believe in operation under any circumstances, those believing in operation under all circumstances and those who believe in operating only when other

measures are unavailing. Dr. Hupp holds strongly with the third class. He reported a case of skin grafting in a fracture and burn case in which he used the amniotic sack with success.

In closing Dr. McDonald showed a number of plates illustrating unusual fractures and others of normal conditions simulating fractures.

Dr. Butt read a paper on "Penetrating Wounds of Abdomen and Thorax."

Dr. McQueen read a paper on "The Neglected Part of Surgery."

Dr. W. W. Golden's paper on "Two of the Most Important Problems Before Our State Board of Health" was read by Dr. S. L. Jepson.

Discussed by Drs. Godby and Jepson.

The sections were suspended in order that all might hear Dr. Gant's paper on "Myxorrhea Membranacea and Myorrhea Coli" (Membranous Enteritis Mucous Colic).

Discussed by Drs. Hupp and Tom Williams.

Dr. Henry introduced the following resolution, which was unanimously passed:

Resolved, That a communication be sent to the editor of Harper's Weekly conveying our appreciation of the article, "A Campaign of Lies," printed in that paper, and thanking the writer, Katherine Loving Buell, and the editor for the stand taken in the interest of scientific medical research.

The Secretary was ordered to send a telegram to Dr. W. H. Yeakley, a former Councilor, who is ill, expressing our sympathy and hope for his early recovery.

Adjourned at 4:40.

Section on Internal Medicine.

Called to order by Dr. Venning at 9:33 Thursday.

Dr. James R. Bloss was elected to preside over the section and Dr. J. Howard Anderson was elected permanent chairman.

The oration in medicine, entitled "Medicine," was delivered by the Orator in Medicine, Dr. James R. Bloss.

"The Cellular Determination of Sex and the Physiological Laws which Govern Its Control" was read by Dr. P. J. McElrath of Bramwell.

Discussed by Drs. McDonald, O'Grady, Jepson, Beebe of Cincinnati and Bloss.

Dr. G. D. Lind read a paper on "The Truth About Alcohol."

Discussed by Drs. Arkin, Cherry, Beebe, Henry and Jepson.

"Typhoid Fever" was the title of a paper by Dr. W. W. Morton.

Discussed by Drs. Beebe and Arkin.

Afternoon Session—Thursday.

Dr. B. F. Beebe of Cincinnati read a paper on "Mind and Its Development." Discussed by Drs. Williams and Henry.

"The Prevention of Insanity" was read by Dr. Charles A. Barlow.

Discussed by Drs. Bloss, Beebe and Williams of Washington, D. C.

Adjourned.

Friday, 11 a. m.

The Association convened in general session.

Dr. Aaron Arkin read a paper on "The Work of the State Hygienic Laboratory for the Physician and the Public Health."

Discussed by Dr. Anderson.

Dr. W. W. Babcock read a paper on "Newer Concepts of Gall Bladder Disease."

Discussed by Drs. Hupp and Cannaday.

"Treatment of Abortion," by Dr. W. W. Gardner, was the next paper read.

"Diagnosis and Treatment of Meningitis" was read by Dr. Cherry.

Owing to limited time no discussion was called for on these papers.

Adjourned.

Friday, 2:45 p. m.

Dr. J. W. Preston of Roanoke, Va., a former member, read a paper entitled "Some Notes on Diabetes Insipidus, With Report of Cases."

Discussed by Drs. Arkin, Pepper and Williams.

"Angina Pectoris" was the title of a paper read by Dr. Thomas A. Claytor.

Discussion of the Workmen's Compensation Act was opened by Dr. Butt, who stated that he had sent a circular letter to a number of our members throughout the State. The following questions were asked:

(1) Do you believe the rates of compensation offered by the Commission to physicians and hospitals are just?

(2) Do you believe we should make out reports for nothing?

(3) Do you object to the present method of administering the Act?

(4) Have you been promptly paid?

(5) Do you regard the Act as an advantage to our profession?

(6) If you regard any part of the administration of the Act as unjust, is it, in your opinion, deliberately so or because the matter is in a formative period?

Questions one and two were answered universally with an emphatic "no." In answering question 6 practically all believed that the wrongs connected with the Act could and would be remedied as time and experience demonstrated their injustice. Answers to questions 3, 4 and 5 varied considerably. A very animated discussion, in which nearly all present took part, followed.

Dr. J. H. Anderson offered the following resolution:

Be it Resolved, That we, the West Virginia State Medical Association, feel that the Workmen's Compensation Act discriminates against a certain large class of physicians throughout our State, and that the scale of fees established is unjust and entirely inadequate. Furthermore, we instruct our Committee on Public Policy and Legislation to take these matters up with the proper authorities and endeavor to have them changed to conform to principles of justice and right to all concerned.

Carried.

Dr. Anderson read a paper on "Diphtheria."

Discussed by Drs. Arkin, McDonald and Henry.

Dr. H. R. Johnson, Secretary, reported the following minutes of the second annual session of the Eye, Ear, Nose and Throat section:

The second annual session was held in the

Masonic Temple. In the absence of the chairman, Dr. V. T. Churchman of Charleston, the section was called to order by the Secretary and Dr. P. A. Haley was elected chairman pro tem.

The minutes of the last meeting were read and approved.

Dr. Thomas E. Peery of Bluefield read an interesting report of a case of double maxillary and frontal sinusitis.

In the absence of the writer, Dr. G. A. Aschman, Dr. Haley read his most interesting paper on "Nasal Reflexes." Dr. J. McK. Sites' paper on the "Treatment of Acute Tubo-Tympanic Catarrh" was read by title.

The following officers were elected for the ensuing year: Chairman, P. A. Haley, Charleston; Secretary, H. R. Johnson, Fairmont; Executive Committee, T. W. Moore, Huntington; W. S. Link, Parkersburg; H. E. Oesterling, Wheeling. On motion the meeting adjourned.

On motion of Dr. Thompson the Association extended its thanks to the presiding officer, Dr. Venning, for the impartial manner in which he had presided over its deliberations.

On motion of Dr. Butt the Association extended its thanks to Mercer, McDowell and Mingo County Medical Societies for the magnificent manner in which we have been entertained.

Adjourned at 5:21.

A. P. BUTT, Secretary.

OHIO COUNTY SOCIETY.

December 15, 1913.

Regular meeting called to order by President Thornton. Twenty-seven members present. Dr. Haning read a paper on "Surgery in the Coal Mines." He said that the difference between mine accidents and general surgery lay in the fact that the former were more severe injuries. He urged caution and careful examination of the patient; that the range of injuries was very extensive and most of the cases of fracture of the skull resulted in instant death. He had but one broken back followed by recovery and that compound comminuted fractures are common. It is very hard to secure a healthy flap in amputation cases. Iniuries to the bone must be carefully examined on account of the "grinding in" of coal and slack. Tetanus seldom occurs. He thinks that bone plating should be resorted to only in select cases of severe fracture and urged caution in the placing of splints. Frequent examinations are necessary on account of injuries to the soft parts and internal injuries are not frequently diagnosed prior to autopsy. Hernia is of rare occurrence. The writer asked if conservative surgery paid in these accidents, since the surgeon after succeeding with difficulty in saving the hand or foot is so often criticised by the patient because the saved limb may not have perfect motion. Obstetrical cases in miners' families usually get along well in spite of unsanitary conditions. Dr. Reed urged conservatism in treatment, especially in injuries of the hand. He spoke of the open treatment of fractures and importance of the X-ray. Dr. Caldwell commented on the carelessness with which the first aid dressings were usually applied and urged the application of iodine immediately after the injury. He also spoke of plating when the bone cannot be held in position. Drs. Osborn, J. A. Campbell and Fulton also discussed the paper. Dr. Haning closed the discussion by reporting a case where the bone was plated at the time of injury and later the plate removed. He stated that at the mine where he is employed one man is specially instructed in giving first aid. Dr. J. O. Howells then read a paper on the treatment of threatened abortion. He spoke of the importance of diagnosis in pregnancy and of ascertaining whether there is specific infection. He said that primiparae increased in tendency to abort as pregnancy advances, the opposite being true in multiparae. He described the different kinds of abortion, saying that they increase as age advances, being more frequent after forty. He gave the various causes, both systemic and local. The symptoms are hemorrhage and pain and dilated os. He recommended quiet in bed with hips elevated and internal opiates, bromide and viburnum, liquid diet. He opposed tampons, douches and ice-bags. Dr. Osborn referred to abortion occurring as a complication of acute infectious diseases and said the use of cathartics sometimes caused the abortions. Reaching, lifting and severe exercise may also have this result. Dr. Taylor impressed the importance of diagnosis of pregnancy, saying that the differential diagnosis between tubal pregnancy and threatened abortion is usually very difficult. Syphilis is a common cause of the latter. The correction of uterine displacements and the cure of anal fissure are important as prophylactic measures. Dr. Drinkard said that gonorrhea is a most important cause in the early months and that syphilis plays a minor role as a cause. Dr. Wingerter urged the use of mercury in abortion as advised by Saious. It was further discussed by Drs. A. Wilson, W. S. Fulton, Reed, Armbrecht, J. A. Campbell, Keay and Megrail.

LITTLE KANAWHA AND OHIO VALLEY SOCIETY.

Parkersburg, W. Va., May 8, 1914.

The Little Kanawha and Ohio Valley Medical Society met at the Chancellor Hotel Thursday evening, May 7th, in regular monthly meeting. Present ten members. After routine business Dr. J. A. Reyburn of Ravenswood read to us an instructive and able paper on Diabetes Mellitus, with report of cases, which illustrated two points: that under careful and well adjusted treatment life may be prolonged for many years, whereas if not so treated the disease speedily proves fatal. The subject was fresh in our minds owing to a late paper read to us by Dr. H. Smith of Marietta. Taken together we all felt the subject well presented and we were able to discuss the subject very intelligently.

Later Dr. L. A. Martin read a paper on chronic interstitial nephritis, quite fully describing the symptoms, etiology, differential diognosis and course of the disease. This pa-

per was interesting and brought out quite a full discussion from the members present. We all hope that the State Society will have an interesting meeting, although none of our members said positively that they would be present. The program promises to be one of much interest, and from the papers promised from outside the state quite in the nature of a clinic.

The discussion of the schedule of fees offered by the Public Service Commission will undoubtedly cause much interest, especially if our lively friend, Dr. McDonald, of Logan, has free scope. However, do what we will, state insurance is coming to stay, following rapidly in the paths laid out by such institutions as B. & O. Relief Association and the accident insurance companies and the managers of lodges, as the Eagles, Lions, Moose, Owls, etc. However, enough said. Cost of medical education goes up, the period of preparation lengthens out and the returns go down.

Yours fraternally,

W. H. SHARP, M.D., Reporter.

Medical Outlook

MEDICINE.

DIAGNOSTIC HINTS.

Dr. R. C. Cabot.

1. Never make a diagnosis of uremia in a patient seen for the first time in an acute illness characterized by coma or convulsions. Such diagnosis rarely turns out right.

2. Never make a diagnosis of ptomain poisoning without definite chemical evidence. General peritonitis or a tabetic crisis is usually the correct diagnosis.

3. Make no diagnosis of hysteria, neurasthenia or psychoneurosis in a patient whose symptoms begin after the forty-fifth year. The actual diagnosis is likely to be arteriosclerosis, hyperthryoidism, dementia paralytica or pernicious anemia.

4. Diagnosis of tertian malaria in patients whose symptoms resist quinine more than three days are almost invariably wrong.

5. Bronchial asthma beginning after 40 usually spells heart or kidney disease.

6. Epilepsy beginning after 40 usually means dementia paralytica or cerebral arteriosclerosis.

7. Typical migraine is often a symptom of unrecognized brain tumor or chronic nephritis.

8. Most cases of "bronchitis" mean tuberculosis, broncho-pneumonia or multiple bronchiectasis cavities.

9. Aside from the immediate results of acute infections (such as scarlet fever, diphtheria, tonsilitis and pneumonia), "acute" nephritis usually turns out to be chronic.

10. Acute gastritis and gastralgia usually mean appendicitis, gall stones or peptic ulcer.

11. Pus in or near the liver is often mistaken for serious or purulent pleurisy, for it produces identical signs in the right chest posteriorly.

12. An X-ray of the shin bones may give the first hint of an active syphilitic process in the joints or internal viscera.

13. Systolic or presystolic murmurs, heard best at the apex of a markedly enlarged heart, rarely mean valve lesions.

14. Diastolic murmurs at the base of the heart are very uncertain evidence of aortic disease unless there are characteristic jerkings in the peripheral arteries.

15. Myocarditis is a diagnosis which should never be made clinically.

16. Besides the direct evidence afforded by the history and the various methods of physical and chemical examination, diagnosis profits much by taking account of certain familiar pathologic chains or groups of them. Given one or two members of the group, it is often wise to act as if the other were present, provided, of course, that the direct evidence in no way contradicts us.

17. Cerebral localization applied to tumors, hemorrhages and the like is still in its infancy.

18. The clinical diagnosis of the so-called diseases of the blood is the easiest and safest in medicine.

EPIDEMIC CEREBROSPINAL MENINGITIS.

In concluding an article in the New York Medical Journal for April, 1913, Wesson gives this summary:

1. The only early constant diagnostic sign is a relative rigidity of neck.

2. A clear spinal fluid indicates a bad prognosis.

3. The temperature is a misleading criterion as to state of disease; treatments should be continued till spinal fluid is sterile.

4. Method of injection should be by gravity; amount of fluid withdrawn bears no relation to size of dose of serum, which should be determined by (a) the rate of flow of serum; (b) amount of discomfort caused patient; and (c) quantity that can be given without using pressure.

5. Serum should be given at least once a day, and in severe cases every six hours.

6. Vigorously treated cases, if seen early, will have no bad after-effects.

HYPERTHRYOIDISM.

L. F. Watson, Oklahoma, Okla. (Journal American Medical Association, January 10), reports three cases of pronounced hyperthryoidism greatly improved or cured by injection of quinin and urea hydrochlorid. In the first case both superior thyroid arteries were also ligated. The injections were of a 1 per cent solution, 90 minims in the right lobe, 60 in the left and the same quantity in the isthmus. In the second and third cases smaller quantities were used and the injection method of treatment was the only one employed. The improvement seems to be equally prompt, he says, without as with the ligation. Whether it will be as permanent time only will tell.

MILROY'S DISEASE—CONGENITAL OEDEMA OF THE LEGS.

Dr. Long reports a case in the Cleveland

Medical Journal, from which we quote as follows:

Males and females are about equally affected. Either the mother or father may transmit the disease without being affected themselves. Attention has been called by Hope and French to the incidence of nervous complaints such as weakness of intellect, epilepsy and dipsomania, either in the patients themselves or in other members of the family. In my patient's family three children were mental defectives.

The diagnosis of Milroy's disease is easily made once the hereditary character of the disease and the absence of local or general causes for the oedema are established. Hope and French have summarized the characteristic findings in persistent hereditary oedema as follows:

(1) The restriction of the oedema entirely to the legs.

(2) The absence of any traceable cause for the oedema, general or local.

(3) The strong family predisposition to the complaint.

(4) The painlessness of the pale swollen legs (apart from the "acute attacks").

(5) The absence of constitutional symptoms.

(6) The sharpness of limitation of the upper level of the oedema.

(7) The incidence in both males and females.

(8) The permanence of the oedema once it is established.

No treatment seems to have any effect on the condition except that the swelling may be held in check by bandaging. The disease has no influence upon the expectation of life of the individual.

ANGINA PECTORIS.

George O. Jarvis, in the Monthly Cyclopedia, in considering angina pectoris, states that pain is one mode of expression of an exhausted heart muscle. The pain due to cardiac dilatation is of the same character as that due to distention of any other viscus, e. g., the urinary bladder, gall-bladder, stomach or intestines. The pain of angina is due to a viscerosensory reflex caused by attempts of the heart to empty its chambers of an accumulated and excessive amount of blood which stretches its walls and embarasses its functions. The heart cannot pass into a state of prolonged contraction (tetanus), because as soon as it contracts its contractile function is in abeyance and it automatically relaxes into diastole. Morphin should be employed with great care in these cases, as its affect is to deaden the receptivity (sensibility) of the reflex centers which preserve heart tone, and an overdose may and has caused sudden death from unrestrained distention of the heart or aorta. Atropin, hyoscin and other substances derived from the belladonna group are absolutely contraindicated, because their effect is to dilate the heart and aorta and to decrease their tone. The much-used combination of morphin, cactin and hyoscin so frequently serviceable in cases of a different nature, should by no means be employed if a loss of vagal tone is suspected. He concludes (1) all cases of angina pectoris which he has examined have shown marked dilatation of the heart and aorta with auricular fibrillation; (2) the cause has seemed to be arterial disease with high blood-pressure, and blocking of the coronary arteries. Associated with this is vagal hypotonia, which becomes more marked with the progress of the attack. (3) The blood-pressure is high at the beginning, but sometimes drops to less than 100 mg. Hg. at the close. During the attack there are marked variations in the blood-pressure, according as the heart is gaining or losing in its struggle to compensate. (4) The pains of angina pectoris are due to a viscerosensory reflex, and may be relieved by measures which increase the tone of the neuromuscular apparatus of the heart and aorta. (5) The most rapid and efficient method of treatment is concussion (or sinusoidalization) at the level of the seventh cervical vertebra in conjunction with the use of some drug, as pilocarpin, to aid in the increase of vagus tone. (6) True angina pectoris differs only in the degree from the less degrees of cardiac embarrassment, such as so-called "pseudoanginas."

ENTERICOID FEVER.

David Riesman, Philadelphia (Journal American Medical Association, December 20), says that every physician in active practice sees cases of fever resembling typhoid, but yet not agreeing with it, which embarrass his diagnosis. One of these typhoid-like affections has been recognized as a clinical entity, namely, paratyphoid fever. He believes, however, that there are others as yet unrecognized and unnamed, and he gives accounts of four cases that seem to him to fall in this category. He says: "1. The term 'typhoid fever,' as commonly used by physicians, includes more than one variety of disease. 2. Only that in which the characteristic serology and cultural tests for the typhoid bacillus are obtained should be called typhoid fever. 3. To the others, which clinically may resemble typhoid very closely, the term 'entericoid fever' may be applied. 4. The entericoid fevers are due to different strains of the paratyphoid group and to others morphologically similar (Gartner's Bacillus enteritidis, etc.). 5. The source of the infection is chiefly food derived from unhealthy animals. 6. Food (including drink) may become contaminated through contact with diseased meat, through rodents, birds, or through the discharge of carriers, etc. 7. So-called second attacks of typhoid fever are probably entericoid (paratyphoid) fever, provided, of course, the first was genuine typhoid fever. 8. In all cases of typhoid-like character careful search should be made for the source; and blood-cultures and other tests for the determination of the infecting agents. 9. By combined clinical and laboratory investigations it should eventually be possible to distinguish the various entericoid diseases now grouped together according to their specific etiology."

SURGERY.

NEW TREATMENT FOR ACUTE GONORRHEA.

The author asserts, from observations in a limited number of cases, that acute gonorrhea can be cured in a week or ten days by the use of intraurethral injections of iodine in a blend of oils. In the first two cases the iodine was used in 5 per cent strength, but one of the patients complained of rather severe smarting, and in the subsequent cases the iodine was combined with another oil-soluble antiseptic (not specified), which enabled him to use a weaker strength of iodine with practically the same effect, but less discomfort to the patient. The result of this treatment in six cases was even slightly better than in the first two, in which, according to the author's description, the discharge ceased in a couple of days. He had found that something more besides the iodine, e. g., zinc phenol-sulphonate, was required to bring about a definite cure, and availed himself of this knowledge in treating the six cases referred to. The iodine injections were given once daily and the zinc phenol-sulphonate injections evidently twice a day. The strength of the zinc solution should not be greater than will just produce a fairly perceptible sting.

In each of the eight cases treated the diagnosis had been verified microscopically. The author believes the treatment also applicable to streptococcus and staphylococcus infections of the urethra. The best results can be obtained if the physician himself makes the iodine injections, leaving the zinc phenolsulphonate or other injections to be made by the patient.

In chronic cases one cannot expect the same results, though after skillful massage of the ducts, prostate, vesicles, etc., about the end of the third week, followed by micturition, an injection of iodine may reasonably be expected to do some good. With an effective treatment of the acute stage such as the author advocates, however, there should follow a diminution of the chronic cases.—O. L. Mulot (Medical Record).

CHRONIC CYSTITIS IN WOMEN.

G. Smith, Boston (Journal American Medical Association), holds to the view that persistent cystitis in women is not in itself a disease, but is the result of pathologic conditions outside of the bladder. This, however, is not the view generally held. He does not contend that simple cystitis never occurs, but such cases will generally be cured by a few days in bed, urinary antiseptics and a few irrigations. If it still exists we must look for some other lesion, either in the kidney or ureter, in pelvis or urethra, or in the mechanism by which the bladder is emptied. He has collected the histories of ninety-eight women with cystitis, ward cases or out patients at the Massachusetts General Hospital, and analyzed them according to the pathologic conditions existing. In eight cases a simple cystitis was found. In the others renal infections, non-tuberculous, existed in 61 per cent, renal tuberculosis in 10 per cent, and in the others there was difficulty in emptying bladder, systemic and pelvic infections or other causes. Every case that was really studied showed a certain or presumptive underlying cause and he maintains that simple cystitis is practically non-existent. Synopses of the cases classified as to the infection from renal sources or from ureteral causes or obstruction are given.

WASHING OUT THE BLADDER.

No one should attempt to wash out a bladder if he is not fully prepared to make use of all the resources of aseptic surgery. Unless carefully carried out, fresh forms of infection may be introduced into the inflamed bladder and the original bacteria will not be killed. Of all the antiseptics which are introduced into the human bladder, I think that silver nitrate in distilled water is by far the most useful and most efficient. Begin with 1/10 gr. to the ounce and gradually increase the strength until it causes slight pain and discomfort. Do not forget to get rid of all traces of urine in the bladder by washing out with boric lotion, or the silver nitrate will be neutralized and rendered inert.—Critic and Guide.

CANCER OF THE UTERUS.

Some Points to Be Emphasized in the Early Diagnosis.*

Rufus B. Hall, M.D., Cincinnati.

It is desirable to consider the diagnosis of cancer involving the cervix and that involving the body of the uterus separately. Therefore, I shall take up first the early symptoms of the disease involving the cervix and later those involving the body of the uterus.

Cancer of the uterus has received more attention from gynecologists than any other disease peculiar to women. One must be convinced by study of the literature that the large part of this energy in the past has been directed toward the perfection of operative technic rather than to the more important problem of early diagnosis. The technic of the operation by the vaginal or abdominal route, or by a combination of both, has been perfected until little more is to be desired along that line. But what has the profession accomplished in the last decade in early diagnosis of cancer that has benefited these patients? Scarcely anything at all.

While the men engaged in this special work have made advances in the early diagnosis of the disease, it does not benefit the great majority of these unfortunate patients, because we have not taught the family physician, who sees these patients first, to make the diagnosis in time for early operation. That many patients come to operation too late to promise a reasonable hope of cure, every operator of experience must admit. If an early diagnosis

*Read in the Section on Obstetrics, Gynecology and Abdominal Surgery of the American Medical Association at the sixty-fourth annual session, held at Minneapolis, June, 1913.

to be made, it must be through the education of the laity by the family physician. From past experience I am convinced that the laity will not be educated until we can in some way bring home to the family physician his great responsibility. The propaganda for education of the family physician as well as the laity inaugurated by the American Gynecological Association at its annual meeting in 1912, and more completely elaborated at the Washington meeting in 1913, should be commended and encouraged with enthusiasm by the entire profession.

CIRCUMCISION.

A. L. Wolbarst, New York (Journal American Medical Association, January 10), combats the view expressed by the late Professor Mass and Dr. L. Emmett Holt that ritual circumcision as practiced by the Jews is insanitary. The case of ritual circumcision tuberculosis reported by Dr. Holt and the forty other cases of which he has found reports, Wolbarst claims, are only an extremely minute proportion of the millions of children who have undergone the operation, and the danger of infection is only incurred when the rite is performed by the Mohelim who still adhere to the ancient practice of stopping the bleeding by sucking the edges of the wound. This is not an essential part of the rite, and he asserts that the Mohelim themselves are anxious to avoid any untoward accidents and are desirous to be instructed as to the necessary sanitary precautions against infection, and that steps are being taken to bring this about. Before condemning the practice in toto it is well, he says, to look at the sanitary advantages. These are thus stated by him: 1. It is a great aid to cleanliness of the genitals. 2. It is a decided prophylactic against infection with syphilis and chancroid. 3. It prevents in great measure the development of venereal warts, herpes, epithelioma and other growths. 4. It offers a diminished tendency to masturbation, convulsions and other nervous results of local irritation. 5. It diminishes local complications in the presence of venereal diseases. 6. It makes the "fourth venereal disease" impossible. 7. It prevents the development of phimosis and paraphimosis, with their attendant complications. He has found that, while his Jewish patients suffered from gonorrheal infection like others (or even more according to his tabulated statistics), they appear to be markedly less liable to syphilis and chancroid; and he supports this by written opinions of his professional colleagues, including a number of the best-known specialists in dermatology. All the advantages of the operation that are claimed by him are gone over in detail, and he considers himself justified in the claim that "circumcision must be considered one of the most beneficent measures ever devised for sanitary purposes in human beings, and it is to be wondered at that there should exist at this late day physicians who stand ready to condemn the practice."

NEEDLE IN THE HEART FOR FIFTEEN MONTHS—DEATH—AUTOPSY.

(By W. P. Northrop, M.D., American Journal Diseases of Children, August, 1913, page 87.)

When one year old this child fell out of a cradle. At that time the mother noticed a swelling just below the ensiform cartilage. She consulted a physician, who made light of it, and with the disappearance of this swelling the incident was almost forgotten, although from that time the child gradually failed in health. At two years of age the child was weak, pale and coughing. A thrill and a loud purring murmur was noticeable over the entire chest, with maximum intensity over belly of left ventricle. A diagnosis of congenital heart disease had been made. Radiograph showed needle in cavity of left ventricle. The child died within 24 hours after taking sick with pneumonia at 2¼ years of age.

Autopsy revealed an enlarged heart and the needle free in the left ventricle. Contrary to expectation there was no ante-mortem clot about the needle and the latter was only slightly corroded. The course the needle had taken from the abdominal wall to the ventricle was shown by a streak of rust on the under surface of the diaphragm, and adhesions between the pericardium and the heart at the apex. ROTHSCHILD.

A SIMPLE MEANS OF REMOVING PLASTER APPARATUS.

In spite of the use of special instruments, the removal of apparatus containing plaster-of-paris is often troublesome, and in the case of a recent fracture may cause injury. Methods of softening the plaster by water, either alone or with the addition of salt, are rarely successful, as the apparatus becomes coated with a layer of grease which prevents their action. The writer has obtained satisfactory results by moistening the line of section with vinegar applied on a tampon of wool. After a minute the plaster will be found completely softened so that it may be easily divided with a pocket knife or ordinary scissors—a procedure easy for the surgeon and painless for the patient. By this method a plaster case for a fracture of the femur, consisting of 80 turns of bandage, may be removed in about a minute and a half. —Stransky (La Semaine Medicale).

INTRAPERITONEAL INJECTIONS OF CAMPHORATED OIL.

Hohne and Pfamnenstiel first conceived the idea of employing camphorated oil injections into the peritoneal cavity as a prophylactic measure against peritonitis in cases of laparotomy for severe infective conditions. The treatment was based upon certain experiments upon animals. They found that if an intraperitoneal injection of oil were made some days before introducing a very virulent culture of bacillus coli into the peritoneal cavity an inflammatory reaction was produced which had the effect of opposing the absorption of the inoculated microbes and enabled the animals successfully to resist infection. This method has now been

taken up by K. Kolb of Bale. In the course of a year 172 laparotomies have been performed, and in 79 of these intraperitoneal injections of sterilized camphorated oil have been administered. All these cases were gynecological and included conditions of pyo-ovaritis, tubular gestations, tuberculosis of the genital organs, cancer of the uterus, etc. Instead of injecting the oil two or three days before operation, according to the method of Hohne and Pfannensteil, Kolb introduced the oil at the time of the operation, or, if there were a glass drainage-tube, immediately after the operation, to the extent of 50 c.c. The strength of the camphorated oil was 10 per cent, the same as that used for subcutaneous injections in cases of pneumonia. Considering only those cases in which there was definite infection of the peritoneum during the operation, such as the penetration of pus from an ovarian cyst into the peritoneal cavity, the author had nine deaths out of fifty-three such cases and only one of them was due to peritonitis, giving a mortality of 1.8 per cent for peritonitis. In four cases there were cutaneous abscesses, showing the virulence of the infection.—The London Hospital.

OBSTETRICS AND GYNECOLOGY.

MENORRHAGIA IN VIRGINS—A MEDICINAL TREATMENT.

Francis Hare of London says in the British Medical Journal of July 15, 1911, that the conception that excessive menstrual losses may depend upon exaggerated vascular tone broadens the etiological basis of menorrhagia. While not forgetting the undoubted influence of local lesions and general diseases, we have to include amongst probable causes all the factors of exaggerated and impulsive (inadequately inhibited) vasomotor action—a series of factors too long to be here considered. Meanwhile, we may work on proximate factors. From the fact that exaggerated general vasoconstriction increases the menstrual loss, it follows that a reduction thereof will diminish the loss; whereupon we at once think of the nitrites.

The effect on menstruation of an inhalation of amyl nitrite, the most rapidly acting of the class, is in strict accordance with, probably exceeds, anticipation. Synchronously with the flushing of the face, the clinical index of inhibition of the general vascular tone, the flow ceases; nor does this return until the next period, unless the inhalation has been administered during the first day or two of the process. In several cases a single administration of 3 minims on three or four successive menstrual periods has been sufficient to effect permanent relief from the tendency to excessive losses. In others the effect has been temporary only. In these latter it has been necessary, and usually sufficient, to give during the menstrual period a regular course of nitro-glycerin, according to the practice recently advocated by Gowers in his article on "Vagal and Vasovagal Attacks," in the Lancet of June 8, 1907.

It is superfluous to add that the success of the nitrites in menorrhagia should never lead to the neglect of local conditions. But these, of course, are quite frequently not examinable. —Therapeutic Gazette.

ADRENALIN IN VOMITING DURING PREGNANCY.

Dr. Robinson reports in a recent number of the Bulletin d'Academie des Sciences two cases of vomiting during pregnancy, in which the brilliant results obtained by adrenalin induce us to give some detailed particulars.

Case 1. Incessant, persistent vomiting; impossibility for the patient to retain the smallest quantity of any food; complete failure of the usual remedies. Ten drops of adrenalin solution (1:1000) internally at once stopped the vomiting; the patient could retain food. After three weeks the treatment was suspended, which permitted the vomiting to recur. The patient resumed the treatment, which she continued for several months; vomiting stopped at once. During the period of treatment she increased 15 kilos in weight.

Case 2. Incessant, persistent vomiting; cadaveric appearance; delirium. Two doctors were called to artificially deliver the patient; hypodermic injection of 10 drops of adrenalin solution (1:1000) was given and repeated the same day. After the first injection the vomiting stopped; the patient could take food. Injections were continued for one week, after which adrenalin was given internally.

The author concludes that the products of the genital and suprarenal glands neutralize each other in the normal state, whereas when one of these two organs is in a state of superactivity the other succumbs, unless it is balanced by an opotherapic treatment.—Therapeutic Gazette.

THE RESULTS OF THE TREATMENT OF TWO THOUSAND CASES OF MISCARRIAGE AT THE BOSTON CITY HOSPITAL.

E. B. Young and John T. Williams, Boston, Boston Medical and Surgical Journal, June 22, 1913.

1. Spontaneous emptying of the uterus takes place in but about 13.2 per cent of all miscarriages.

2. The likelihood of a miscarriage to complete itself increases with the duration of pregnancy.

3. When it becomes necessary to use artificial means to complete the miscarriage the finger followed by the curette in later miscarriages, and of the curette alone in the earlier months of pregnancy, has given uniformly satisfactory results at the Boston City Hospital.

4. Experience has shown that where the cervix is extremely rigid it is better to introduce the curette and break up the fetus and placenta and remove them piecemeal than to attempt to dilate the cervix sufficiently to introduce the finger.

5. Packing the vagina and lower segment of the uterus is an unsatisfactory and often unsuccessful method of emptying the uterus. No success whatever was obtained in treating incomplete miscarriages in this way.

6. Packing is, however, of great value in two classes of cases.

First, in exsanguinated patients, to stop the hemorrhage and give the woman a chance to recover somewhat from the loss of blood before emptying the uterus.

Second, when the cervix is very rigid, a tight cervical pack for twenty-four hours will soften it so that dilatation may be attempted with safety.

7. The results of artificial methods are as good as but not better than where nature has succeeded in emptying the uterus.

8. Artificial methods are necessary in a majority of cases, however, simply because nature has failed.

9. In infected cases the essential thing is to get rid of the infectious material by emptying the uterus; the particular method employed making little difference.

10. The later in pregnancy miscarriage occurs the smaller the liability to become infected, but the greater the likelihood of developing grave septic complications if infection does take place.

11. The mortality is practically the same at all periods of pregnancy.

12. Induced abortions have a greater mortality than accidental. The mortality of patients admitted to the hospital after criminal abortions was 10 per cent.

NOTE ON THE GALACTAGOGUE ACTION OF THE THYMUS, CORPUS LUTEUM AND THE PINEAL BODY.

Isaac Ott, M.D., and John C. Scott, M.D., Philadelphia, Pa.

Thymus and Corpus Luteum.—In experiments upon the goat with the glands containing internal secretions we have found that the thymus and corpus luteum increased the quantity of milk fourfold in five minutes. The ovary minus corpus luteum had no effect. Infundibulin is still the most powerful galactagogue, increasing the secretion of milk one hundredfold. The amount of butter fat was about the same in the augmented secretion by thymus, corpus luteum, and infundibulin, though occasionally it was increased.

Pineal Body.—We have found that intravenous injection of this body increases the secretion of milk eightfold.

We used the goat in our experiments. The pineal gland, as in our previous experiments, was rubbed up with distilled water and filtered. Normal saline, according to Biedl, has been shown to increase the secretion of milk.—Physiological Laboratory, Medico-Chirurgical College, Philadelphia, Monthly Cyclopedia.

EMPHYSEMA DURING LABOR.

M. J. Siegelstein, New York (Journal American Medical Association, July 22), remarks on the rarity of the complication of emphysema during labor, and reports the only case that has occurred at the Sydenham Hospital in New York. During the acute stage of labor a swelling suddenly appeared on the right side of the neck and face and before the completion of the labor it had extended to the root of the neck and upper part of the chest. The eye of the affected side was completely closed up. It disappeared within ten days and there were apparently no other abnormal symptoms. He remarks that similar emphysema has been known to occur from excessive vomiting or paroxysms of coughing. In an editorial comment the rarity of the complication is noticed; Kosmak in 1907 could collect only 77 cases in the literature since 1791. It occurs almost always in primiparae and no anatomic explanation is given of the cause of the rupture of the air cells. The prognosis is always good; the treatment symptomatic and expectant.

(Dr. Jepson reported a case similar to the above in the West Virginia Medical Journal several years ago.)

OVULATION AND CHILD-BEARING WITHOUT MENSTRUATION.

Two sisters, who had never menstruated but had raised families of children without any evidence of menstruation in their history, are reported by O. F. Blankinship, Richmond, Va. (Journal American Medical Association, February 24). One woman had three children, the other had been married three times and had eight. These are the only instances he has observed of child-bearing without any history of menstruation, out of many thousands of patients interrogated as examiner for life insurance companies and otherwise.

PREVENTIVE MEDICINE.

ANTITYPHOID VACCINATION.

The remarkably successful results of antityphoid vaccination in the United States army during the year 1913 are reported by Major F. F. Russell, Medical Corps U. S. A., New York (Journal American Medical Association, May 2). Tables are given which show that the number of cases in the United States proper has fallen from 3.53 per thousand six years ago to 0.03 in 1913; the death rate has fallen from 0.28 in 1909 to none, one case occurred in 31,038 men serving abroad, and only three altogether in the whole army. No harmful effects whatever were observed and a decrease of the tuberculosis ratio has also occurred since the use of antityphoid vaccination.

TYPHOID VACCINATION IN THE FRENCH ARMY.

Official statistics show that in France no case of typhoid fever has occurred among the soldiers vaccinated, who, on December 31st, 1912, numbered 37,140. Only one case was reported among 13,290 men vaccinated in Algiers-Tunis, and that was a soldier who had come from Morocco. In Morocco the results were: In Eastern Morocco the morbidity and mortality were nil, while among the non-vaccinated the morbidity was 38.23, the mortality 5.51 per 1,000. In Western Morocco the morbidity among the vaccinated was 2.96, the mortality 0.09 per 1,000; while among the non-vaccinated

the morbidity was 168.75 and the mortality 21.29 per 1,000. Taking the average typhoid statistics for the whole army it is estimated that antityphoid vaccination has, among the 62,788 men treated, prevented 2,101 cases of the disease and 266 deaths during the year 1912.—American Practitioner.

THE LIMITATIONS OF TYPHOID VACCINE.

The recent report of the British Army Committee on Anti-Typhoid Vaccination modifies the opinions formed from previous partial reports. The immunity fades much sooner than formerly supposed, probably not lasting over two years in the majority of cases, and the medical officers in India are now recommending yearly revaccination. A number of cases have contracted typhoid after the inoculation.

The great reduction in the typhoid rate in the British and American armies and in many of the cities began with sanitary measures before the vaccines were introduced, hence these measures should be given some credit for the reduction.

Vincent, of the French army, finds that his vaccine behaves like a tuberculin and sometimes activates a latent tuberculosis which might otherwise not have been recognized. This is borne out by the increase of tuberculosis in the British army in 1909, following the extension of inoculation, also to a certain extent by the American army statistics.

A member of the British Army Committee has deprecated the use of vaccines where sanitation has been controlling typhoid. This would apply to those places in the United States where there is little or no chance of infection.

The malaise, weakness, dyspnea and lack of energy complained of by some female nurses after vaccination which occasionally persist, might be due to a tuberculosis which subsequently subsides.

Long exposure to infection produces an immunity which is explained as being due to repeated vaccinations from small numbers of living attenuated germs swallowed frequently, if not daily. This keeps down the number of cases in India after vaccinal immunity fades, and it might obviate the necessity for revaccination among the nurses who have charge of typhoid cases.—Editor in Medical Record.

LOCAL APPLICATION OF TINCTURE OF IODINE TO ERADICATE THE DIPHTHERIA BACILLI.

Strauch in the Therapie der Gegenwart, September, 1913, applies as a routine measure tincture of iodine to paint the tonsils when diphtheria bacilli are found in the throat a week after the close of an attack of diphtheria. In sixteen out of fifty cases after one or two applications of the iodine on a cotton pledget no further bacilli could be detected; in twenty others none could be found after three applications; in two cases four applications were necessary, and in four other cases, including three with diphtheria of both nose and throat, the bacilli could still be cultivated from the tonsils. He commends this systematic iodine treatment as a useful means to control the further spread of the infection, even though it is not invariably successful. The most striking results were observed in cases in which chronic bacilli carriers were freed from the bacilli in a few days under the iodine. No harm or by-effects were ever noticed, except the disagreeable but transient taste of the iodine in the mouth.—American Practitioner.

THE COMMONER CONTAGIOUS DISEASES OF CHILDHOOD.

Herrmann emphasizes the following points in the New York Medical Journal of August 17, 1913:

1. As practical sanitarians we wish to know how contagious diseases are usually spread, not how they may be occasionally spread.
2. It is persons, not things, that spread these diseases.
3. In the vast majority of cases the infection is due to contact, either with a recognized or an unrecognized case or a "carrier."
4. The spread of contagious diseases through the air, through desquamating scales, and through healthy third persons, not carriers, seldom occurs and for practical purposes may be neglected.
5. The disinfection of fomites, rooms, etc., is to a great extent unnecessary, especially as all infected individuals and carriers cannot be controlled.
6. The carrier represents the crux of the whole problem. It seems unlikely that this difficulty will ever be entirely overcome.
7. On account of the existence of carriers, isolation, disinfection, improved medical school inspection, and special hospitals, alone cannot have a marked influence on the reduction of morbidity.
8. This can be accomplished only by a method of temporary or permanent immunization against these diseases.

TOBACCO—ITS USE AND ABUSE.

Dr. David Martin, of the University of Vermont, has a scholarly and reasonable article in Vermont Medical Monthly upon this subject. He deprecates the extreme views predicated upon circumstantial and unscientific evidence, and reaches the following conclusions, among others:

It produces, when used to excess in advanced life, a tendency to neuralgia, neuritis, laryngitis, bronchitis, anginal pains, arteriosclerosis, cancer of the lips and tongue, chronic indigestion, albuminuria and amblyopia.

When indulging use the "hookah" (a pipe with a glass bowl), the cigarette with a cork or straw tip; or a small slender cigar with a cigar holder, discarding the pipe entirely.

Use tobacco, the nicotine content of which is below 3 per cent, the so-called "mild tobacco." Permit the tobacco, no matter in what form, to become thoroughly dry before using.

Never relight a partly used cigar.

Never inhale the smoke.

Never chew tobacco.

FORMALDEHYD DISINFECTION.

Dr. Henry Albert gives this as an easy method. The method of evaporating formaldehyd vapor by adding to the 40 per cent solution some chemical agent, such as potassium permanganate, is a comparatively new one, and I believe it to be one of the best, if not the best. The formaldehyd solution is poured into a rather deep vessel in which potassium permanganate has previously been placed. The potassium permanganate, by oxidizing a portion of the formaldehyd, changing it to formic acid, produces enough heat to evaporate the remainder. The first experiments with this method from which we have any reliable data regarding results were performed by the State Board of Health of Maine in 1904. They obtained perfect disinfection by using two pints of formalin and 13 ounces of potassium permanganate for every 1,000 cubic feet of space. They did not take the usual precautions of sealing cracks and other small openings about the house, and they permitted the gas to act for but four hours.—Journal American Medical Association.

PEDIATRICS.

THE MANAGEMENT OF INFANTILE ECZEMA.

Infantile eczema is not primarily a disease of the skin, but is a cutaneous symptom of some internal disorder. Treatment directed towards the skin disturbance will be of little avail unless the basic internal disorder be at the same time corrected. For the early erythematous eruption about the face A. J. Markley (Pediatrics) recommends a lotion as follows:

Acid, carbolic.....gr. x
Magnes. carb.....ʒ i
Zinc. oxid.....ʒ i
Glycerin.....ʒ ss
Aq. calcis.....℥ ii
Aq. dest.....ad ℥ iv

Applied two or three times a day, with the conjoint use of a mild sulphur and salicylic ointment on the scalp to combat the seborrhea, this will be found usually sufficient if the toxic disturbance be also corrected. If extensive weeping or oozing surfaces be present nothing is so effective and soothing as wet compresses of liquid plumbi subacetatis, a drachm to a pint of cold water, applied for twenty minutes three or four times a day, and followed by the lotion above mentioned. In cases of some duration tar is the most effective remedy, and may be used as in the following formula:

Acid carbolic,
Acid salicylic.....aa gr. iii
Ung. picis liq.....ʒ i
Lassar paste.....ad ℥ i

This is applied in a thick layer overnight, and removed in the morning, and the magnesia lotion kept on during the day. In markedly thickened areas, and particularly if fissured and excoriated, painting with 10 per cent silver nitrate solution is often beneficial. In generalized cases lotions and powders are more serviceable than ointments. The following may be applied two or three times a day:

Resorcin,
Sodii boratis.....aa ʒ
Glycerin.....ʒ ss
Aq. camph.....ʒ ii
Aq. dest.....ad ʒ iv

This, after drying, may be followed by a powder such as:

Camphor. pulv.....ʒ ss
Acid. boric.....ʒ i
Talc. pulv.....ad ʒ i

—Critic and Guide.

THE USE OF MALT SUGAR IN INFANT FEEDING.

Every infant's stomach has its own digestive problems. Many infants can take care of milk sugar or cane sugar, or both; others have difficulty in digesting them, especially in the presence of butter fat. In infants two months old or older, the use of malt sugar is often of the greatest help, when lactose or cane sugar is impossible. It may be given as neutral maltose. As prepared the diastatic action is destroyed and the reaction of the solution is made neutral by the use of potassium carbonate. "Keller's Malt Soup" and the Maltzyme Co.'s Neutral Maltose are valuable malt sugar products now on the market.

In instances where the fat in the artificial feeding mixture is below 1% the percentage of maltose may be run up to 7% or 8% or even more. It must not be run up over 4.5%. If the fat content of the feeding is sufficient to bring the nutritive value of the food up to the requirements of the infant the maltose should be limited to 4.5 per cent. In other words, the caloric value of the food should not be increased beyond the needs of the infants.

In using maltose it is desirable to start with a formula containing a low fat and a fairly high percentage of malt sugar. If this mixture gives relief of previously distressing symptoms as gas, restlessness, regurgitation, and constipation, the formula agrees with the infant. If in addition to this there is also gain in weight, no further change is needed. When the weekly gain in weight falls to 4 ounces or less, the food should be strengthened by increasing the protein, fat or malt sugar as the needs of the infant may require.—Medical Review of Reviews.

URETHANE, USES OF, IN CHILDREN.

Upon trial of urethane (ethyl carbamate) in 50 cases in children the author has come to the conclusion that this drug is a reliable, harmless hypnotic which deserves to be employed in all conditions associated with nocturnal excitement in the young. In children 1 to 12 months old he finds doses of 0.5 to 1 Gm. (7½ to 15 grains) to be suitable; in children 1 to 2 years old the dose should be 2 Gm. (30 grains). Urethane readily dissolves in water, and can be given either by mouth or rectum without

irritating the mucous membranes. Quiet sleep supervenes in ten to twenty minutes and lasts in most instances through the whole night. The pulse and respiration remain unchanged, and no untoward collateral effects were ever observed by the author. Occasionally children who were under-weight were observed to require even larger doses than those corresponding to their age.

The drug was found by the author effective in various conditions associated with nervous excitement, in pain due to injuries or disease, and in infantile convulsions the result of gastrointestinal or cerebral disturbances. In doses of 2 to 3 Gm. by mouth or rectum, urethane was found valuable as a substitute for chloral hydrate. In whooping-cough it was not observed to exert any influence upon the frequency and violence of the coughing spells, but proved valuable as a preventive of the nervous phenomena which appear after whooping-cough has run its course. Favorable results were also noted with the drug in latent or manifest spasmophilia, in chorea, and in post-pneumonic delirium.—F. Bertling (Berliner klinische Wochenschrift, January 22, 1913).

SAVING THE BACKWARD SCHOOL CHILD.

G. M. Gould, Atlantic City, N. J. (Journal American Medical Association, April 5), calls attention to eye defects in backward school children and especially notices some recent work of Dr. W. M. Richards of New York City done under control of the school authorities. Thirty-eight children were examined and treated for refraction errors, and the testimony of the principals and teachers is epitomized as regards the results on the school progress and moral character of the children. They seemed to be almost invariably very good and where there was continuance of symptoms or no improvement, long standing of the disease producing a great deal of amblyopia or the bad home environment seem to account for the condition. Dr. Richards estimates that there are about 78,000 children with defective vision in the New York schools, and that this could be remedied in 80 per cent if the principles and practice of refraction were properly taught and learned by the general practitioner in the medical school. He believes that in New York there is a divided responsibility in the government of the schools; that a cycloplegic is not used in determining the refraction errors in the 84 per cent of the hyperopic defectives, and that the small errors are ignored, though they have great influence in determining effort, proficiency and conduct in the school children. Even if this were done, it would probably be impossible to get the requisite spectacles made and paid for. Lastly, diagnosis and treatment of defects and diseases of other organs than the eyes is not at present feasible. The case would seem rather hopeless at the present time.

DIAGNOSIS OF ENLARGED BRONCHIAL GLAND.

Dr. H. F. Still of Hartford thus concludes his valuable paper:

1. A moderate enlargement of the bronchial nodes often gives physical signs of sufficient distinctness to render their diagnosis possible by clinical methods alone.

2. The signs are usually most marked in the interscapular space.

3. Tapping percussion will elicit bronchial node dullness that is imperceptible when more force is used.

4. Whispered bronchophony in the interscapular space is the earliest and most valuable sign of swollen bronchial nodes. It is especially significant in children and has almost, if not quite, the same importance in adults.

5. While the spasmodic, brassy cough is quite typical of bronchial node tumor, the diagnosis must sometimes be made in the absence of the cough.

6. An ever-present fatigue, associated with anorexia, afternoon temperature and possibly a slight loss of weight, should suggest the possibility of their tuberculous nature.—American Journal Diseases of Children.

TREATMENT OF CONGENITAL CLUB-FOOT.

Savariaud (Presse med.) says that the surgeon who is treating club-foot should have at his disposal a series of means varying in accordance with the severity of the deformity, the social position of the child, and the amount of assistance to be expected from the mother or other persons surrounding him. Treatment should be begun as soon after birth as possible by daily replacing the parts under the direction of the physician. Between these replacements the foot should be kept in a normal position by some sort of apparatus. Later, to this treatment may be added, when needed, tenotomy and forced replacement under chloroform. After this, massage and apparatus are to be continued. In country children who will get less care operation on the bones may be done earlier; in the young child subcutaneous removal of the osseous nuclei from the bones, and in older children astragalectomy with cuneiform resection may be done. Plaster apparatus must be applied at once. The patients operated on must never be lost sight of, lest we get bad results. This deformity is probably due to faulty position of the foot during intrauterine life, early in pregnancy. The result depends on the degree of the deformity, degree of reducibility, shape of the foot, age of child and circumstances of life. A long flexible foot will give better results than a short stubby one.—Charlotte Medical Journal.

TREATMENT OF PYELITIS OF INFANTS.

It is now recognized that many obscure cases of fever in infants, especially of the female sex, are dependent upon an infection of the renal pelvis, usually with colon bacilli. If the urine be examined it will generally be found unduly acid in reaction and an improvement will rapidly set in if the reaction becomes alkaline. Besides giving the usual urinary disinfectants, it is therefore customary to prescribe such alkalies as sodium bicarbonate and potassium citrate. According to an observation of Nothmann, an alkaline reaction and rapid improvement will also be seen if the infants are fed upon malt soup (1/3 liter milk, 2/3 liter water, 100 grams Loefflund's malt extract, 50 grams wheat flour). The resulting alkalinity is due to the presence of potassium carbonate in the malt and probably also to other unknown factors. The malt soup will not only cure the pyelitis, but will also considerably improve the general condition of the infants.—Berl. klin. Woch., Sept. 23, 1912.

ALBUMIN MILK.

The following method of preparing albumin milk, used at St. Ann's Infant Asylum, St. Louis, is recommended by Dr. J. M. Brady (Journal American Medical Association, November 15), as time and labor-saving. "1. Bring a quart of sweet whole-milk to the boiling point; raw-milk is not used because its curd is much tougher. 2. Cool to 100 F. 3. Add one tablespoon essence of pepsin and allow to curdle. 4. Pour off the whey and suspend curds in muslin bag two hours. 5. Stand bag containing curds in 8 ounces boiled cool water. 6. Remove the bag from the water, allow as much water to drip as will and place curds in sieve. 7. Add pint of fat-free buttermilk to sieve containing curds; it will be found that the curds will pass through in two to three minutes, which must be repeated three or four times. 8. Turn the bag inside out and return to the 8 ounces of water so as to obtain all the curd. 9. Pour in the sieve the 8 ounces of water which was used to soak the curds. 10. Add enough water so the whole measures a quart. 11. Add the percentage of maltose-dextrin desired and put on ice. We are able to prepare 10 quarts of this food after the curds have drained, and soaked in less than ten minutes with the minimum separation of the fat."

MORTALITY OF BREAST-FED AND BOTTLE-FED INFANTS.

Of infants reaching the age of two weeks, one in five dies before a year old if bottle-fed, while if breast-fed only one in thirty fails to reach the one year mark. This means that the deaths of these infants would be 60 per cent less if all could be breast-fed.

The actual number of infant deaths in Boston last year was 2,248. Breast feeding would have saved nearly a thousand of these children and the rate instead of 127 per thousand births would have been 71.

Such a saving of infant life is not a mere fancy. The reduction of the infant mortality rate from 127 to 71 is entirely within the range of possibilities.

New Zealand, in 1909, had a rate of 62 and South Australia for the same year a rate of 61.10.

Surely mothers should suckle their children as God intended.—Dr. W. H. Davis in American Journal Diseases of Children.

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